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Present Status of Active Immunization in Prevention of Disease*

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PRINCIPLES INVOLVED

1. Vaccination or *active immunization* depends upon the capacity of vaccines for stimulating the body cells to actively produce specific antibodies. Non-specific effects which may be helpful in the treatment of disease do not appear to have much immunizing value.
2. Unfortunately and for reasons not understood at present, the *dead* vaccines of some pathogenic organisms like those of *Sp. pallida*, the tubercle bacillus and gonococcus, are without these specific vaccinogenic effects.
3. As a general rule vaccines of *living* but *attenuated* organisms are more effective than dead vaccines as shown in vaccination against smallpox, rabies, poliomyelitis, tuberculosis, psittacosis, etc., but cannot be used on account of the dangers involved.
4. Vaccines of the exotoxins or their toxoids are usually highly effective against diptheria, tetanus, scarlet fever, etc. In vaccines of staphylococci and streptococci for therapeutic purposes they should always be included.
5. Bacterial dissociation has an important influence upon the effectiveness of active immunization. Smooth, virulent and completely antigenic strains should be employed whenever possible because of higher vaccinogenic activity.
6. In some diseases like syphilis and tuberculosis the antibody appears to remain in or upon the cells instead of being in the blood. In these immunity is best produced by the establishment of foci of infection as depots of antibody production.
7. Those infectious diseases known to produce a lasting immunity are the ones in which vaccination is most likely to be successful.
8. It is likely that vaccination in diphtheria, tetanus, scarlet fever, typhoid fever, pertussis, etc., sensitizes the body cells so that immunity is prolonged through clinically unrecognized exposures and minor infections sufficient for stimulating antibody production.
9. Some of the greatest triumphs in preventive medicine have been due to the discovery of methods of vaccination and doubtless more will follow in time.

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Vaccination Against Smallpox

1. In the United States alone there are reported annually about 50,000 cases of smallpox due to negligence in vaccination, despite the fact that it is one of the safest and most effective methods known for the prevention of a dreadful disease. During the 18th century over 60,000,000 people succumbed to the disease.
2. Only a few cases of postvaccinal encephalomyelitis have been reported in the United States. Cowpox vaccine is not the specific cause and the etiology is unsolved.
3. Tetanus is almost always due to secondary infection of the vaccinal lesion, as cowpox virus is rigidly examined for bacilli and spores before use.
4. Children should be vaccinated six to 12 months after birth and again at six years. Immunity may last for the the balance of life, but revaccination is desirable every seven to ten years and *always* in the presence of an epidemic.
5. Use only fresh virus; always keep virus in a cold place as heat is destructive; vaccination during cold months is preferred; keep children away from horses and stables after vaccination; advise against scratching; do not use shields; if a dressing is necessary use sterile gauze.
6. Acetone is preferred for the cleansing of the skin; antiseptics kill the virus.
7. The multiple pressure method is preferred. Vaccinate in two areas in case of: exposure to smallpox; in case of failure of previous vaccinations; in case of doubt as to potency of virus.
8. Daily applications of one per cent solutions of picric acid and iodine in alcohol to papule and vesicle reduces secondary infection (Schamberg and Kolmer).
9. Vaccination in the lower thighs of girls is not recommended because of the increased risks of tetanus infection.
10. Calf lymph virus by the multipressure method is preferred. The intracutaneous injection of the Goodpasture chick vaccine is probably next best with slightly less severe local and constitutional reactions. The Rivers culture vaccine by intracutaneous inoculation gives a higher percentage of severe reactions.

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Vaccination Against Diphtheria

1. Has proven highly effective and all children should be immunized in the pre-school period, preferably at eight to 12 months of age.
2. Widespread immunization is gradually but definitely eradicating diphtheria and greatly lowering its mortality. It is believed that the disease can be as thoroughly eradicated as smallpox by immunization.
3. Diphtheria, however, can and does sometimes occur (rarely) in immunized and Schick-negative individuals exposed to heavy, virulent infection.
4. The duration of immunity after vaccination is variable and probably not over five to eight years but may persist for the balance of life when reenforced by natural immunization from clinically unrecognized exposures.
5. The Schick test is not required in children under six years of age as at least 80 per cent are positive and all should be immunized.
6. The Schick test is advisable in older children and adults and only positive reactors should be immunized.
7. Children immunized at eight months to two years of age should have a Schick test at six years of age and given one or two additional doses of toxoid if positive.
8. Older children and adults should have a repeat Schick test about six months after immunization and given one or two additional doses of vaccine if still positive.
9. Even if a Schick-negative reactor later becomes Schick-positive the ability to produce antitoxin rapidly upon

subsequent stimulation apparently lasts for the balance of life.

10. For infants and children under six years of age a *single* dose of 0.5 to 1.0 cc. of *alum-precipitated toxoid* usually suffices. It is highly and rapidly antigenic and immunizes at least 90 per cent within two to three months but immunity is less lasting. Local nodular reactions may persist for several weeks with danger of abscess due to the alum.
11. The author prefers two injections of *soluble toxoid* three weeks apart for infants and Schick-positive children under 12 years of age. Antitoxic immunity results in about 95 per cent, is more durable and produces less local reaction.
12. Children over 12 years of age and adults may be allergic to diphtheria bacillus protein and give severe local reactions to toxoid (Maloney reaction).
13. It is advisable to do the Schick test and at the same time a second test for allergy consisting in the intracutaneous injection of 0.1 cc. of 1:20 dilution of toxoid. Only Schick-positive reactors require immunization.
14. If the individual is not allergic the author recommends 0.5, 1.0 and 1.0 cc. of *soluble toxoid* at intervals of two to three weeks.
15. If the individual is allergic (positive Maloney reaction) the author recommends 0.1 or 0.25 cc. of soluble toxoid followed by two additional doses of the same or increased amounts or three injections of T-A (1 cc. each) at intervals of two weeks. The former is preferred because more antigenic without danger of serum sensitization.

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Vaccination Against Tetanus

1. Natural antitoxic immunity to tetanus doubtless occurs but there is no skin test available for its detection.
2. Vaccination with alum precipitated *toxoid* is of proven value and deserves general adoption.
3. It is free of spores and perfectly safe. Local and general reactions are usually trivial and negligible.
4. At least two and preferably three doses of 1 cc. each by subcutaneous injection are given three to four weeks apart; for children 0.5 cc. For persons who are frequently injured one dose annually thereafter apparently gives sufficient protection.
5. Antitoxic immunity develops slowly and requires at least several months; apparently 0.1 unit of antitoxin per cc. of blood suffices for protection. It is of no value in the treatment of tetanus.
6. The duration of immunity is variable; it lasts at least one to three years and probably for the balance of life in a high percentage.
7. If a *vaccinated* person is injured it may suffice to give only 1 cc. of toxoid for additional protection since antitoxin production is rapid under these conditions. If, however, the chances of infection are great 1,500 units of antitoxin should be given at the same time.
8. If an *unvaccinated* person is injured give 1,500 units of antitoxin immediately and at the same time 1 cc. of toxoid. In severe injuries contaminated with dirt a second dose of 1,500 units of antitoxin is advisable five to seven days later to prolong passive immunity followed one month later by a second dose of toxoid.
9. Vaccination is now compulsory in the English, French and Italian armies and widely used in the U. S. army.
10. It is highly advisable among civilians including even children and especially among adults whose occupation exposes them to frequent injuries, as farmers, mechanics, truck drivers, miners, railroad employees, etc.

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Combined Immunization

1. Ramon and other investigators have found that the combination of diphtheria and tetanus toxoids gives better results than the use of each toxoid separately.

2. Many physicians now believe that the routine immunization of children against tetanus is desirable. For this purpose two or three doses of combined diphtheria and tetanus alum-precipitated toxoids may be given.
3. In the Italian army tetanus toxoid is combined with typhoid-paratyphoid vaccine for simultaneous immunization.

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VACCINATION AGAINST SCARLET FEVER

1. From 45 to 70 per cent of children under five years of age give positive Dick reactions; about 25 to 35 per cent of older children and about 15 to 20 per cent of adults.
2. The test may be omitted, therefore, in children under five years of age but should always be done in older children and adults as only positive reactors require immunization.
3. In contacts and during epidemics it is excellent practice to give the first dose of toxin in one arm and a Dick test in the other; if positive the remaining four doses are given (Park).
4. Vaccination deserves wider use than at present and is especially advisable in institutions for children, for physicians, medical students and nurses in scarlet fever hospitals and to check epidemics.
5. At least five subcutaneous injections of toxin are advised at weekly intervals: 500, 2,500, 20,000, 40,000 and 80,000 skin test doses (Dick).
6. Severe local and general reactions may occur due to toxin, allergic sensitization to bacterial protein or to broth constituents. The author uses 250, 2,000, 10,000, 20,000 and 40,000 skin test doses with fewer reactions and satisfactory results.
7. Three intradermal injections of 1,600, 4,000 and 10,000 skin test doses have been advised but value is uncertain at present.
8. Immunity develops in about 90 per cent of susceptible individuals (Dick negative reactions). The duration is unknown but probably three to eight years. It may possibly last for balance of life through reenforcement by clinically unrecognized exposures to hemolytic streptococci.
9. A recent change by Dick in the broth medium employed for the preparation of toxin has greatly reduced the incidence of reactions and it is likely that one or two doses of this new toxin will suffice in the future.
10. Immunization by toxoid or oral administration of toxin is not satisfactory.
11. The author believes it is advisable to use a mixed vaccine of toxin and chemically-killed *streptococcus scarlatinae* to produce antibacterial as well as antitoxic immunity.

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VACCINATION AGAINST WHOOPING COUGH

1. Whooping cough ranks third among the destroyers of children with an incidence averaging about 200,000 and a mortality of about 5,000 yearly in reported cases.
2. There is apparently no natural immunity with greatest susceptibility from six months to five years of age.
3. The Sauer vaccine is recommended prepared of freshly isolated and completely antigenic smooth strains of *B. pertussis* carrying 10 million per cc., suspended in saline solution and sterilized with phenol.
4. The total amount injected is 7 cc. divided into four doses at weekly intervals. At present double-strength vaccine may be employed (20 million per cc.) in total amount of 5 cc. (1, 2 and 3 cc.) for children under two years and 6 cc. (1, 2 and 3 cc.) for older children at weekly intervals.
5. Immunity develops in one to three months but its duration is uncertain although apparently lasting about four years and sufficient for protection over the age of greatest susceptibility when reenforcement by clinically unrecognized exposures apparently prolongs the immunity.
6. The incidence in all types of exposure

has been reduced from about 80.2 to about 16.7 per cent by vaccination.

7. Even if vaccination fails to prevent the disease it greatly reduces the severity of the attack in about 40 per cent with less chances of the dreaded bronchopneumonia.
8. The best time for vaccination is about six months to two years of age and the author recommends its widespread use. Its value in treatment has not been determined.

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Vaccination Against the Common Cold

1. The infectious "common cold" is a disease of great economic importance as well as one predisposing to chronic sinusitis, pneumonia and tuberculosis.
2. It is due primarily to an ultramicroscopic virus which appears to lower resistance to bacteria in the respiratory tract resulting in an important secondary infection.
3. The virus has been cultivated but vaccination with it has yielded disappointing and inconclusive results.
4. Immunization against the secondary bacterial infection, however, is apparently effective in about 50 per cent of individuals and is apparently worth while.
5. Of little or no value in the presence of purulent sinusitis and adenoids for the prevention of so-called "colds" due to exacerbation of such chronic infections.
6. Stock vaccines may be used but the author prefers a mixed stock and autogenous vaccine carrying a total of 1,000 million per cc.; for adults 0.2, 0.4, 0.6, 0.8 and 1 cc. at weekly intervals; children one-half these amounts.
7. Immunity usually lasts four to 12 months but sometimes for several years.
8. Oral immunization is still in the experimental stage but has given promising results and is certainly worthy of trial. The vaccine is prepared of dried organisms in capsules one of which is taken with a glassful of cold water 30 minutes before breakfast for seven days in succession followed by one per week for a total of 20 doses. It is likely that the results are improved by using organisms with a high heterophile antigen content.
9. The author recommends giving a monthly subcutaneous injection of mixed autogenous and stock vaccine following the five initial injections or following with oral vaccine, to reenforce immunity and prolong the period of protection.

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Vaccination Against Influenza

1. Influenza is due to an ultramicroscopic virus; *Bacillus influenzae* is an organism of secondary infection. "Grippe" is mild or sporadic influenza.
2. The virus has been cultivated artificially and some attempts made to actively immunize against it but the results have been inconclusive or disappointing.
3. Immunization with vaccines of *B. influenzae* alone have given little or no evidence of protective value.
4. Immunization with mixed vaccines of *B. influenzae*, streptococci, staphylococci, pneumococci, etc., are of doubtful value but may give some protection against secondary pneumonia.
5. There is, therefore, no method of proven value at present for vaccination against sporadic or epidemic influenza.

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Vaccination Against Lobar Pneumonia

1. The author calculates that the yearly incidence is about 267 per 100,000 population and that about 335,000 whites and 67,000 negroes over one year of age contract pneumonia yearly with the great majority due to pneumococcal infections.
2. About 50 to 60 per cent among adults are due to Types I and II, about 12 per cent to Type III and the balance to Types IV to XXXII. This multiplicity of types complicates, therefore, the problem of active immunization.

3. The results of vaccination against Types I and II with single subcutaneous injections of 1 to 2 mg of Felton's water-soluble antigen have indicated that it may reduce the incidence of the disease.
4. The duration of immunity after immunization is unknown but probably quite brief and not over 4 to 12 months.
5. Vaccination against Types I and II is worthy of further trial in epidemics and especially in camps; also in those individuals whose occupation exposes them greatly to the disease.

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Vaccination Against Tuberculosis

1. The possibilities of effective immunization with killed vaccines of *B. tuberculosis* in combination with other antigens is highly problematical although such may be elaborated in the future sufficient for reducing tuberculosis in infants and children.
2. Living non-virulent bacilli have been given in the form of the B C G vaccine to about 1,500,000 infants without a single death (the Lubeck disaster being due to an accident).
3. It is best given orally shortly after birth and has apparently reduced the tuberculosis mortality among exposed infants in the first years of life.
4. The duration of the immunity is undetermined but may scarcely be expected to protect against marked exogenous reinfection during adult life.

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Vaccination Against Typhoid Fever

1. Vaccination against typhoid and paratyphoid fevers along with the filtration or disinfection of drinking water and other hygienic measures have undoubtedly greatly reduced the incidence and mortality of these enteric diseases.
2. Not all strains of typhoid and paratyphoid bacilli are suitable for the preparation of vaccine. It is important to use "smooth," virulent and completely antigenic strains. At present the Panama carrier strain No. 58 of *B. typhosus* is employed.
3. The vaccine carries 1,000 million typhoid and 750 million paratyphoid A and B bacilli per cc.; three doses of 0.5, 1.0 and 1.0 cc. are given by subcutaneous injection at intervals of seven to ten days.
4. Tuft has shown that the *intracutaneous* injection of 0.1, 0.15 and 0.2 cc. at weekly intervals may give a better immunity response with lesser reactions.
5. Oral immunization is possible but not advisable.
6. While the immunity is not complete it usually protects against ordinary chance infection for two to three years. It may be reenforced thereafter by a single dose of 1 cc. subcutaneously or 0.1 cc. intracutaneously. The mouse serum protection test is a better index of acquired immunity and the need for revaccination than the agglutination test.
7. Vaccination is especially recommended in localities where typhoid fever is endemic, in the case of all contacts and those exposed to the disease, during epidemics, in camps, those traveling to foreign countries, etc.

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Vaccination Against Bacillary Dysentery

1. The high toxicity of vaccines of *B. dysenteriae* (Shiga) has made active immunization difficult.
2. Sero-vaccine (mixture of 0.5 cc. immune serum and 0.5 cc. of killed bacterial suspension) has been used by Shiga with a lowering of mortality but with practically no effect on morbidity.
3. Dysentery toxoid has been employed as likewise oral vaccines but with uncertain and poor results.
4. At the present time dysentery immunization cannot be recommended as a general prophylactic measure.

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Vaccination Against Asiatic Cholera

1. Ferran first employed vaccination

against cholera in 1885, and since then many different vaccines of living but attenuated or dead cultures have been used. At the present time, vaccination against this disease is believed to have distinct value.

2. The method is similar to vaccination against typhoid fever. Three injections are usually given at weekly intervals.
3. Oral administration of vaccine has been tried but subcutaneous injections are believed to give better results.
4. The immunity probably lasts only two years.
5. During the World War, vaccination appeared to reduce both the morbidity and mortality from cholera.

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Vaccination Against Undulant Fever

1. The incidence of undulant fever is progressively increasing in the United States and is an important public health problem.
2. Killed vaccines and filtrates of brucella have largely failed to effectively immunize cattle and goats.
3. Some success has been attained with vaccines of living brucella but these are too dangerous for human beings.
4. Killed vaccines and glucidolipoid fractions may, however, engender sufficient immunity in human beings for protection against ordinary chance infection and are being tried to a limited extent in the immunization of veterinarians, meat handlers and laboratory workers. From his experimental work the author believes the prospects are promising for ultimate safe and effective immunization.

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Vaccination Against Rabies

1. One of the most mortal of diseases, since recovery is almost unknown, and of increasing frequency urgently requiring the wholesale vaccination of dogs and especially the rigid enforcement of other public health measures.
2. Fortunately only from 6 to 16 per cent of human beings bitten by rabid animals develop the disease. Vaccination has reduced the incidence to less than one per cent.
3. The saliva of rabid animals is infectious about one week before the onset of symptoms. If an animal shows no symptoms whatever for a week or two after a bite, the danger of rabies may be excluded.
4. In case of doubt it is always better to start vaccination and stop if subsequent examinations and observations show that the animal was not rabid.
5. Bites about the head and hands are particularly dangerous; contamination of the hands with saliva alone is potentially dangerous.
6. Thorough cauterization of bites with fuming nitric acid within 12 hours is apparently of value.
7. The original vaccine of Pasteur has now been largely replaced by the phenolized vaccine of Semple given by subcutaneous injection in dose of 2 or 2.5 cc. for 14 to 15 days in succession.
8. It is still doubtful if completely killed virus is sufficiently vaccinogenic; apparently a residue of living but attenuated virus in the vaccine is required for effective immunization.
9. The duration of immunity is variable but probably lasts only one to two years.
10. The incidence of treatment paralysis has varied with different vaccines but is ordinarily of rare occurrence (1:3538). It is unknown in children under five years of age and has never occurred during the first five days of treatment; it usually develops after 6 to 10 doses; the prognosis is good but never give the treatment unless the patient or family understands the slight risks entailed.

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Vaccination Against Rocky Mountain Spotted Fever

1. A vaccine of the Rickettsia may be obtained from the U. S. Public Health

service field station at Hamilton, Montana.

2. It is given subcutaneously or intramuscularly in dose of 2 cc. for two or three injections, five to seven days apart; the dose for children under 10 years of age is 1.0 cc.
3. As a rule only local reactions occur; occasionally there may be a mild general reaction with urticaria in about one per cent (allergic).
4. The vaccine should be given before or shortly after the appearance of ticks, i.e., during the late winter or early spring.
5. The immunity lasts only one to possibly two years and is usually sufficient for protection against infection with strains of low virulence while greatly increasing the chances of recovery from infection with virulent strains.
6. Of no value in the treatment of the disease.

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Vaccination Against Equine Encephalitis

1. Equine encephalitis in man presents a new and important clinical and public health problem. It is due to an ultramicroscopic virus which may be transmitted not only by horses but probably by pigeons, pheasants and other birds. The disease is severe in man with a high mortality; greatest incidence among children under five years of age.
2. The virus has been successfully cultivated in the chick-embryo medium and vaccines have been successful in the immunization of horses.
3. The vaccine is now being employed for the vaccination of laboratory workers, veterinarians and other exposed persons. Apparently safe and effective with no untoward reactions but its exact value cannot be appraised at the present time.

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Vaccination Against Infantile Paralysis

1. The age of greatest susceptibility is from 1 to 15 years of age. The majority of adults are apparently immune but the disease may occur among them.
2. Completely killed vaccines of the virus from the spinal cords of monkeys are regarded as ineffective.
3. Only the living virus in vaccines is capable of producing immunity in monkeys and presumably in man but are regarded as too dangerous for use.
4. At present there is no known method of proven value for the prophylaxis of infantile paralysis. The author believes that safe and effective immunization may be ultimately accomplished with vaccines of living but attenuated non-infective virus.

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Vaccination Against Yellow Fever

1. Killed vaccines of the virus have been found ineffective.
2. Some success has attended vaccination with mixtures of mouse virus and human immune serum.
3. At present a vaccine of living chick-embryo culture virus is being tried since it appears safe because of marked attenuation of its viscerotropic and neurotropic properties. Its value cannot be expressed at present but the results are hopeful and encouraging.

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Vaccination Against Bubonic Plague

1. Vaccination against bubonic plague was first tried in 1877. Since then many different kinds of vaccines of *B. pestis* have been used, and especially that prepared by the Haffkine method.
2. One or two large doses, by subcutaneous injection, confer an early immunity of short duration (about three months).
3. Vaccination is of no value against the pneumonic type of plague but is regarded in India, China and elsewhere, as of distinct value in combating epidemics of the bubonic type.

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Vaccination Against Meningitis

1. Vaccination appears to have some

value in epidemics of meningitis although the results have not been entirely convincing.

2. The vaccine should be freshly prepared of *strains producing the epidemic* which are virulent and completely antigenic. Three injections at weekly intervals of 500, 100 and 1,000 million are advised.

3. The author has found it possible to vaccinate the lower animals against pneumococcus and streptococcus meningitis and believes that when conditions permit it is advisable to vaccinate human beings with three to six weekly injections of autogenous vaccine before operations on the mastoid and nasal accessory sinuses (particularly in ethmoiditis and sphenoiditis) and especially if cultures show that infection is due to hemolytic streptococci and pneumococci. This procedure promises to reduce the chances of complications and particularly suppurative meningitis.

Summary

Disease	Practical Value
Smallpox	Effective
Diphtheria	Effective
Typhoid fever	Effective
Pertussis	Effective
Scarlet fever	Effective
Rabies	Effective
Tetanus	Effective
Bubonic plague	Worthy of Use
Asiatic Cholera	Worthy of Use
Rocky Mountain Fever	Worthy of Use
Common cold	Worthy of Use
Equine Encephalitis	Worthy of Use
Yellow fever	Worthy of Use
Meningitis	Worthy of Use
Lobar pneumonia	Uncertain
Influenza	Uncertain
Tuberculosis	Uncertain
Bacillary Dysentery	Uncertain
Undulant Fever	Uncertain
Poliomyelitis	Not available

Advisable Routine Immunizations

Pertussis	9 months of age
Diphtheria or Diphtheria and Tetanus	12 months of age
Smallpox	2 years of age
Scarlet fever	3-4 years of age
Typhoid fever	8-12 years of age

The Private Physician's Part in a Public Health Program*

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As Public Health grew from a more or less temporary organization called into action to cope with an emergency and took on the aspect of planning and carrying on an active program for the reduction of unnecessary illness and death and for the improvement of health, record-keeping became an important phase of every service. Without the careful recording of circumstances under which a disease occurs, there would not be available for studying the splendid expositions on epidemiology which are available to us today. Only with careful recording of services and results over a long period of time can Public Health advance to a more exact science so that favorable results may follow the expenditure of funds and effort in accordance with a predetermined plan.

As the program of the local Health Service became less concerned with the present and began to carry on activities of a truly preventive nature, records became increasingly important as a measure to insure improvement in the service to individuals as well as an aid in sound planning of the program on a wide basis to the end that the expenditure of funds and effort may be justified by the results obtained. Life saving campaigns of the last few decades have borne fruit. The death rate has been lowered and the average span of life correspondingly lengthened.

*Read before the Section on General Medicine, Annual Meeting, Oklahoma State Medical Association, Oklahoma City, May, 1939.

As a matter of fact, since 1913—a short space of 25 years—the average age at death has increased 13 years. The amount of sickness, on the other hand, has not been reduced or controlled to the same degree. There still is too much sickness among us; indeed, there are those who with some authority maintain that illness has actually increased in spite of *all the saving in mortality.*

The basis for any campaign against sickness must be an accurate knowledge of its prevalence. Just as the reduction of mortality is furthered by a complete registration of deaths and their causes, so are efforts to reduce the frequency of disease dependent upon machinery for reporting the cases of sickness, their causes and their duration for each group in the community. For this purpose, it is not sufficient to know only the number who died from any particular disease; emphasis must be placed upon the cases of sickness themselves. They are socially more important than deaths and our program must more and more prevent their occurrence and effect their control.

The state must, therefore, in the first instance, see that all preventable diseases are recorded in order that we may lay a foundation for efficient sanitary administration. The health departments have always realized the importance of registering disease. The first laws required the reporting of plagues such as smallpox, yellow fever, cholera, etc.; later the list was extended to include the acute infections, especially those of childhood. Later diphtheria, scarlet fever and measles, first on a voluntary basis; later this was made compulsory. Finally, certain non-infectious diseases, such as cancer, pellagra and even a few of the occupational diseases have been made reportable.

At the present time, all states of the Union have laws requiring the reporting of one or more of the preventable diseases.

Professor Irving Fisher of Yale University has estimated that about 3,000,000 people are seriously ill at any one time in the United States, about one-half of whom are suffering from preventable diseases. Faulk estimates that not less than 500 out of each 1,000 of the population suffers a disabling illness during any given 12-month period. That means in Oklahoma 1,250,000 people suffer disabling illness annually. The average amount per capita cost is estimated at $30.00 per annum. It is further estimated that wage losses by employed persons amount to another $30.00 per annum per capita. That means $76,000,000.00 annually to our state. That is a tidy sum, is it not?

These figures, we believe, are conservative but it is obviously impossible to make an estimate which will approximate the truth in view of the lack of completely accurate information. Whatever be the exact amount of loss sustained, thorough effective registration will help to reduce it and it will thus yield a big return to the community on the relatively small investment required.

The effect upon the social welfare is far reaching. It makes possible the immediate and effective treatment of certain infectious diseases. In cases of tuberculosis, for example, an early report to the department of health puts at the disposal of the patient the advantages resulting from the resources of the organization.

In the case of diphtheria, where success in the treatment depends so largely on an early and correct diagnosis, the registration of a suspected case enables the health authority to make a culture which settles the diagnosis. In positive cases, the information placed at the disposal of a physician in charge helps to make a cure almost certain. So, too, the reporting of eye-infections of new-born babies brings the nurse or medical inspector into the home who sees that the required treatment is given. As a result, many children now grow up with normal vision whose lives otherwise would have been shrouded in darkness.

The registration of all communicable diseases enables health officers to discover the foci of infection in time to prevent further spread of the disease. The early and complete reporting of typhoid fever at once puts the efficient health officer on the track of the infection.

It may be the sewage system or the water or milk supply which is at the bottom of the trouble. In any event, the location and sequence of the cases settles the ques-

tions and the epidemic may in this way be prevented from spreading to other sections. The reporting of preventable diseases enables the health authority to superintend the efforts of the state department of labor in following up cases to their sources. Thus, the compulsory reporting of blood poisoning puts the authority on the trail of the careless company or factory where other workmen may be finally exposed to possible poisoning. The health and labor departments can then bring to bear their facilities on the employers or employees and also further fulfillment of the various requirements of the law.

The reporting of occupational diseases can be made to serve as a most excellent check on the efficiency of the existing labor legislation. The registration of certain diseases such as cancer, and pellagra, throws much light upon the origin of these maladies. We have much to learn with regard to the frequency with which these diseases occur in the various social groups. There is already at hand sufficient evidence to indicate that their incidence varies greatly with regard to race, sex, age, occupation, personal habits and other conditions. Our advance, therefore, in the control of cancer will depend in a large measure upon the cooperation of the physician, the registrar and the vital statistician.

The registration of preventable diseases is furthermore the chief test at our disposal for measuring the efficiency of the community control over them. Millions of dollars are spent annually in campaigns to control their progress. There is, however, a considerable d i f f e r e n c e of opinion as to the best methods to pursue and the several communities are applying their appropriations in different ways.

It is c l e a r l y an advantage for every group to know the results obtained through the application of their special methods. In this way the recording of cases, together with a complete statement of their methods, will ultimately decide the fate of the methods employed.

In conclusion, I want to say just a few words about the recording of deaths and a completing of the medical certificate of death.

Every physician appreciates, in a general way, the importance of the collection, tabulation and assembling of mortality statistics. It is doubtful, however, if many of them realize the importance of care and judgment in making their statements. The achievement of accurate statements which reflect the physician's considered opinion depends first upon the physician understanding c l e a r l y the significance of the questions related to the cause of death and the g e n e r a l principles upon which the death certificate is based. Official records can never be more accurate than the statements of the medical practitioner, no matter what conventional treatment be employed.

What does the physician need to know to enable him to complete a satisfactory medical certificate?

He must, first, understand clearly what is meant by "cause of death" for statistical purposes. This is defined as "the disease or i n j u r y which initiated the train of events leading to death" and it is this entity of which a clear indication is desired. This information is designed so that medical records may serve to direct attention to the point at which preventable measures may be best applied.

Detailed statements are not desired. A s i n g l e entry is preferable in all cases where this can be regarded as adequate. The physician's statement of the cause of death is not intended to be an abstract of the clinical history and pathological findings. Detailed studies in any case can and should always be made on samples where greater reliability may be attached to such details, as in hospitals.

Death certificates are supposed to contain merely a clear authoritative scientific and logical explanation of the medical officer as to the cause of death. An entry of several morbid conditions or states has of course no particular disadvantage from the medical or statistical standpoint, if they are presented in logical order and without ambiguity. As an example, from the statistical standpoint, the fact that the injured person in an automobile accident died as a result of concussion is not important. The important thing is *how the accident occurred.*

Terminal conditions are not satisfactory causes of death from the statistical standpoint for the reason that they do not give us the point from which to start preventive measures.

Peritonitis, without qualification given as a cause of death, practically masks many other of the communicable diseases and accidents and even suicides and murders.

Thiocyanates in the Treatment of Hypertension

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CHICKASHA, OKLAHOMA

Thiocyanates have enjoyed varying degrees of popularity and disrepute in the treatment of hypertension for a number of years, but it remained for Barker† in 1936 to explain the diverse results obtained by the different investigators. He believes that the thiocyanates are retained in the body to varying degrees in different individuals — they being a foreign substance in the body, each kidney eliminates them with varying facility; i.e., no definite dose will be effective in every individual —what is less than a therapeutic dose in one individual may produce toxic symptoms in another. Barker believes that the only safe method of controlling dosage is by the determination of the blood cyanate levels which, he states, should be kept between 8-12 mgm. per 100 cc. of blood. The method for determination is set out in his first article†.

He believes that, if this method is followed, thiocyanates are an ideal medication for controlling hypertension and that the margin of safety in their use is sufficiently broad to warrant their more frequent and extensive use, as toxic symptoms usually do not arise before the blood levels have exceeded 30 mgm. per 100 cc.

I wish to report here a short series of cases in which I am in complete accord with Barker. My reasons for reporting this short series are the unusual nature of two of the cases, and the ideal circumstances these cases presented for such a study.

†Barker, M. Herbert: Estimation of Blood Thiocyanates in Hypertension, J.A.M.A., 106:762 (March 7) 1936.

First let me state that I am not offering this method as a panacea nor do I believe that it is applicable to all cases, because of its untoward side actions; i.e., the frequent annoying sense of weakness and vertigo complained of by many even when thiocyanates are given in therapeutic doses.

All patients in this series have had a trial period of from several months to a year or more on sedatives and theophylin derivatives which failed to control either their blood pressure or their subjective symptoms.

Case No. 1. Miss R. W. P., Ph.D., professor of philosophy in a state college, was first found to have hypertension in 1920. At this time systolic pressure was 190/?. This condition persisted unabated, the pressure gradually increasing until it was well over 200 in March, 1936, at which time she suffered a cerebro-vascular accident associated with a transient hemiplegia of the left side. However, she was able to carry on with her teaching the following year. In June, 1937, she had a second cerebro-vascular accident, about a month following which she consulted Dr. Harvey Stone of Baltimore who found her blood pressure to be 260/?, and who, on July 14, 1937, performed a bilateral splanchnic resection. The following day, the blood pressure was 135/90.

The patient states that for the following six weeks the blood pressure was very unstable, varying between this last figure and 200/130. On September 28, 1937, it was found to be 220/120. The patient was able to teach school for another year and felt

"fairly well" although the blood pressure remained around 220/130.

I first saw the patient in September, 1938, following a rather extensive cerebrovascular accident resulting in hemiplegia and aphasia. At this time her blood pressure was 276/160 and she was placed on bromides and phenobarbital, tissue extract by hypodermic, whiskey ounces one-half t.i.d., and aminophylin grains one and one-half t.i.d. However, her blood pressure remained at 260/150. She had another cerebro-vascular attack in November, 1938, and another light attack on February 1, 1939, when her blood pressure was 260/160. At this time she was placed on potassium thiocyanate grains five daily, and all other medication was discontinued. After one week her blood pressure was 188/130 and blood cyanate level 19 mgm. per 100 cc. The dose of thiocyanate was reduced to grains 3½ daily. The following week the blood concentration was 12 mgm. per 100 cc., the blood pressure 220/120, and the patient felt quite well. Since that time the blood levels have remained between 11-12 mgm. per 100 cc. and the blood pressure has been 190/100 for the past three months. The patient is up and around and perfectly comfortable but unable to carry on duties of teaching because of a speech disturbance and partial deafness which were present before institution of thiocyanate therapy.

Case No. 2. Mrs. M. E. A., age 53. A physician's wife with the history of having an exophthalmic goitre removed in 1912 and who was told at the Mayo Clinic in 1929 that she had a mild hypertension which was still present one year later. She was otherwise well until September 14, 1936, at which time she experienced an attack of coronary thrombosis verified by electrocardiogram. Since that time she has had a persistent blood pressure of around 245/140—in spite of the taking of tremendous doses of sodium amytal (3 to 9 grains daily).

The patient first consulted me on December 10, 1938, because of weakness, nervousness, dyspepsia, and dyspnea on exertion. For these various symptoms she was taking some 17 different medicines; such as, alka seltzer, alkaroids, milk of magnesia, magnesium sulphate, bromides, caroid and bile, soda, etc.

Examination revealed the following essential findings: Bilateral exophthalmos; a dusky cyanosis limited to the head and neck; generalized arteriosclerosis, grade 2; blood pressure, 245/145; pulse, 120; temperature, 98.6; an old thyroid scar with no gland palpable; and moderate cardiac enlargement, associated with a definite gallop rhythm. The patient weighed 183 pounds and was five feet two inches in height.

An electrocardiogram revealed a left axis deviation and presence of inverted T wave in lead 3. Urinalysis showed specific gravity, 1.018; slight trace albumin; and occasional granular casts. Non protein nitrogen was 22.5 mgm. per 100 cc. of blood.

The patient was advised to discontinue all medication, placed on a reducing diet and bowel management, and hospitalized. On January 4, 1939, the patient was discharged from the hospital feeling fairly well. Her blood pressure on dismissal was 210/120, and pulse 96. On January 23, 1939, the patient was re-admitted to the hospital with a mild congestive failure; pulse, 126; blood pressure, 190/110; hepatomegaly and edema of ankles. After four days in the hospital, and following digitalization, her blood pressure was 230/124 which, on continued rest and administration of phenobarbital and aminophylin, was reduced to 210/120 in two weeks. At this point it persisted despite weight reduction to 137 pounds, continuous bed rest in hospital, and sedation, until April 10, 1939, when thiocyanate therapy was instituted and it was found necessary to give 10 grains daily to attain blood levels of 11-12 mgm. per 100 cc. This concentration, however, brought the blood pressure down to 174/90 in two weeks time.

Since then the patient has remained in the hospital, principally as a matter of convenience, where she has had no medication other than the potassium thiocyanate, and where daily blood pressure determinations have varied between 184/106 to 148/84. The patient is up and around eight to ten hours daily, and comes and goes from the hospital at will feeling per-

fectly well save for a slight ease of fatigue.

Case No. 3. Mrs. J. Stinson, age 59, has had a known hypertension for four years and has been under constant observation for seven months. When first seen, January 10, 1939, her blood pressure was 260/100, which on bromides and theominal was reduced to 230/100 where it persisted for five months. Following the institution of thiocyanate therapy on May 24, 1939 (5 grains daily to sustain blood cyanates at 10 mgm.), her blood pressure has dropped to 180/80 and the patient states that she feels the best she has felt in many years.

Case No. 4. Mrs. W. W. W., a married woman, age 51, weight 155, first came to the clinic on March 28, 1939, complaining of headaches and vertigo. Her physical examination was essentially negative save for a blood pressure of 260/110. She was placed on a reducing diet, phenobarbital, bromides, and aminophylin, with added periods of rest. By December 13, 1938, her weight was reduced to 126, pulse 72, and blood pressure 230/110, the lowest it had been since under observation. The patient was advised to take thiocyanate therapy, but declined and continued the above treatment until May 4, 1939, when her blood pressure was found to be 240/120. At this time, the administration of potassium thiocyanate was instituted, grains 5 daily, which sustained blood cyanates between 11-12 mgm. per 100 cc. Her blood pressure at the end of one week was found to be 212/110; two weeks later 174/90, near which point it has remained to date. The patient complains of some weakness and occasional vertigo which she greatly prefers to her previous intense headache and nervousness.

Case No. 5. Mrs. R. L. B., age 31, who first consulted me on January 14, 1939, giving a history of repeated attacks of inflammatory r h e u m a t i s m and tonsillitis since childhood, and a history of intermittent edema of the feet and ankles since 1931. She had consulted her family physician some three weeks earlier, regarding a tonsillectomy, but he had refused to perform this operation at that time because of a marked hypertension, and had placed her on a starvation regime. She had had nothing but clear l i q u i d s for the week prior to my first consultation with her, and had been at absolute rest in bed. Her blood pressure was found to be 165/118. Her urinalysis revealed a 3 plus albumin, occasional pus cells, occasional red blood cells, and alkaline reaction. Specific gravity 1.010, with the p r e s e n c e of many hyaline and granular casts. Her red blood count was found to be 3,330,000; hemoglobin, 11 gms.; white blood count, 4,550. She was placed on a 1,200 calorie, Sodium-free diet, and given a prescription for ferrous sulphate, grains 3½, four times a day. She was given calcium chloride, grains 20, four times a day, and potassium chloride, grains 60, once daily, a prescription containing bromides, bella donna, and phenobarbital, and advised not to be out of bed over ten hours a day. After one week on this regime her blood pressure was found to be 230/140, and at this time a concentration and dilution kidney function test was run, which revealed a maximum concentration of 1.014, and a maximum dilution of 1.002, and non protein nitrogen was 25.5 mgm. per 100 cc. of blood. Her urea nitrogen was 10.09 mgm. per 100 cc. She continued on this regime for four weeks with blood pressures c h e c k e d from once to twice a week, the readings being around 230/140 consistently. At this time she was advised to have a tonsillectomy, which was performed. Following this, her b l o o d pressure was lowered to around 194/120 for some three weeks, but returned to its previous levels in spite of the rest, sedation, and the other measures carried out. During all of this time her urine continued to show granular casts, pus, red blood cells, and albumin.

On March 9, 1939, she was placed on potassium thiocyanate, grains 5 daily, and all other m e d i c a t i o n was discontinued. After one week on potassium thiocyanate she was found to have a blood cyanate of 20 mgm. per 100 cc. of blood, and a blood pressure of 200/130, which one week later was found to be 190/110 with a blood cyanate level of 22.2 mgm. Her blood pressure remained at this point until May 12, 1939, at which time the dose of potassium thiocyanate was reduced to 2½ grains per day, which brought her blood c y a n a t e level down to 11 mgm. per 100 cc. and her blood pressure rose to 212/130. On maintaining

her blood cyanate level between 10 and 12 mgm., her blood pressure rose to 230/130 where it was when the patient was last seen on July 6, 1939. She was advised to discontinue this medication as we felt it was not safe to carry her at the higher levels necessary to maintain a systolic blood pressure under 200.

Case No. 6. Miss E. E., age 32. This patient had a history of acute glomular nephritis in 1931, and a history of rather intense anti-luetic treatment for four and one-half years following 1931. I first saw the patient in December, 1938, at which time she was complaining of migraine headaches and nervousness. She had a 4 plus Kahn reaction at this time despite the prolonged treatment and was found to have a blood pressure of 210/120. Her urinalysis was a 1 plus albumin, occasional red cells, pus cells, and granular casts. Her physical examination was otherwise not remarkable. She was followed for five months on sedatives and was found to have a blood pressure fluctuating between 160/100 and 210/120. On May 14, 1939, she was placed on potassium thiocyanate, and it was found necessary to give 10 grains a day in order to attain a blood level of 10 mgm. per 100 cc. On this her blood pressure was consistently around 170/90, but the patient discontinued the medication after four weeks because of the untoward symptoms of vertigo, weakness, and malaise.

SUMMARY

Reported here are six cases of hypertension due either to chronic glomular nephritis or to essential hypertension, with the results obtained by the use of potassium thiocyanate in doses sufficient to maintain the blood levels between 10 and 12 mgm. per 100 cc. The method was found effective in controlling the hypertension in all cases but was discontinued in one case because of the untoward side actions, and in another case of chronic glomular nephritis because it was felt that the blood levels necessary to satisfactorily reduce the hypertension; i.e., 20 to 23 mgm. per 100 cc.; was too high to warrant its continued use, although no toxic symptoms were manifest.

Cortical Hormone in the Treatment of Bromide Intoxication

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This report is made upon seven patients with bromide intoxication. In six of these, cortical hormone (Eschatin)† was administered. The data presented would indicate that this substance is effective in the elimination of bromide from the tissues when given in combination with sodium chloride. There also appears to be a more rapid clinical improvement than in those cases in which only sodium chloride is used in treatment.

†Eschatin was supplied by courtesy of Parke-Davis and Company. Appreciation is acknowledged for the services of Dr. Charles A. Smith and Mr. Allen Bronston who executed the technical part of this experimental work.

Thorn[1] et al, and Hartman[2] et al, have reported that upon the administration of cortical hormone there is a definite reduction in the excretion of sodium and chloride. This information was the basis for the empirical usage of cortical hormone.

A recent study by Gundry[3] presents detailed information upon 15 cases of bromide intoxication and is an excellent summary of the etiology, symptoms, diagnosis, prognosis and treatment of this condition. In his article a correlation between the level of serum bromide and mental symp-

toms was pointed out. Mild nervous manifestations occurred in individuals in which the serum bromide content was between 50 and 150 mgms. per 100 cc. of blood. Cases in which the bromide content was from 150 to 250 mgms. presented mild intoxication, weakness, restlessness, thick speech, anxiety outbreaks, and hallucinations. When the bromide content exceeded 250 mgms. the clinical picture was dominated by the symptoms characteristic of a toxic psychosis. In 10 of his cases the serum bromide upon admission ranged from 196 to 555 mgms. per 100 cc. Under sodium chloride treatment (4 to 10 Gm. daily), upon an average of about two weeks after admission, the serum bromide level ranged from 85 to 244 mgms. This indicates the slowness with which bromide is eliminated.

The following table presents results in six cases treated by intramuscular injections of 5 cc. of Eschatin daily in combination with 6 to 10 Gm. of sodium chloride by mouth or parenterally. In one case, no cortical hormone was given. In another case, cortical hormone was given 12 days after sodium chloride treatment had been carried out.

Eschatin was given in doses of 2½ cc. twice daily. In two cases there was a temporary increase in mental symptoms, characterized by more confusion, and a tendency toward coma. This condition is analogous to that which occurs in some instances in which sodium chloride is given intravenously.

In severe cases, sodium chloride given intravenously or subcutaneously in the form of normal saline solution is advisable. Cortical hormone, when given in conjunction with this method of administration neutralizes the severe reactions formerly reported, evidently because of the fact that chlorides are being rapidly taken into the tissues. It is advocated that sodium chloride be given subcutaneously or intravenously in conjunction with cortical hormone.

Empirically, it is also recommended that cortical hormone be given in all other types of toxic psychoses.

Conclusion

Upon the basis of this empirical data, it would appear that cortical hormone is of definite value in the hastening of the recovery from bromide intoxication when given in conjunction with sodium chloride. Toxic levels of serum bromide can be rapidly reduced to non-toxic ones from within two to four days under the influence of cortical hormone in combination with sodium chloride. It is also recommended that cortical hormone be used empirically in treatment of all cases of toxic psychoses.

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Case	Condition Upon Admission	Serum Bromide Upon Admission	Sodium Chloride Given	Eschatin Given	Subsequent Serum Bromide	Number of Days After Admission	Condition At That Time
1.	Severe brimode intoxication	400 mgms.	8-10 Gms. daily	None	200 mgms.	18	Still confused
2.	Mild intoxication	150 mgms.	6 Gms. daily	5 cc. per day	50 mgms.	2	Relieved of bromide intoxication
3.	Severe bromide intoxication	360 mgms.	6-10 Gms. daily	5 cc. per day	115 mgms.	4	Normal
4.	Severe bromide psychosis	300 mgms.	6-10 Gms. daily	None	157 mgms.	12	Still confused
		300 mgms.	6-10 Gms. daily	5 cc. per day	63 mgms.	14	Practically normal
5.	Severe bromide psychosis	350 mgms.	8-10 Gms. daily	5 cc. per day	80 mgms.	4	Relieved of bromide intoxication. Epilepsy.
6.	Moderate intoxication	200 mgms.	6-10 Gms. daily	5 cc. per day	60 mgms.	2	Relieved of bromide intoxication. Involutional psychosis.
7.	Severe-intoxication with general paresis	165 mgms.	8-10 Gms. daily	5 cc. per day	105 mgms.	1	Relieved of bromide intoxication.

Routine Laboratory Examinations for Typhoid Fever and Dysentery Organisms

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In the past years large numbers of people have been immunized against typhoid fever in Oklahoma. In fact so many have been immunized against the disease that the Widal or agglutination determination is not of as much value in aiding in making an early diagnosis as it originally was, in that many individuals could not give their family doctor correct information as to when and how long since they had received the immunization. It would require examinations and delay in many cases to determine the difference between the agglutination produced by typhoid fever and immunization.

Our own experience and observation prompts us to state that the laboratory can and will aid in the diagnosis, release and detection of carriers, if blood and stool specimens are submitted for cultural determination. Hence, we suggest and highly recommend that one week after onset of typhoid fever, or suspected typhoid fever, that 5 cc. of the patient's blood be submitted for cultural determinations. In our hands it has been our experience, as our records will show, to demonstrate the organisms in better than 90 per cent of the cases during the first week.

During the second week of the illness of the patient a specimen of blood and a small portion of stool (about one-half inch square) be submitted to the laboratory so that both blood and stool may be cultured. After the second week, for the diagnosis, release and detection of carriers, we desire to have stool and urine submitted for bacteriological growth and determinations.

STOOL AND URINE CULTURE FOR ENTERIC DISEASE

How stool and urine specimens are submitted: Specimen is submitted to the laboratory in a two ounce screw cap, round, glass jar, containing 10 cc. of glycerol-lithium chloride solution.

Sodium chloride	6 gm.
Distilled water	700 cc.
Glycerol	300 cc.
Lithium chloride	5 gm.

Added stool specimen size of almond or about one-half inch in dimension.

Method of Procedure:

First Day Planting: Two plates of Wilson Blair's Bismuth sulfite agar (Difco), one plate of Desoxycholate citrate agar (Baltimore Biologicals) streaked. Approximately 10 gms. of stool specimen in 50 cc. flask containing 12½ cc. of Selenite F. Enrichment broth (Baltimore Biologicals).

Second Day: Desoxycholate citrate agar plates read. Desired colonies fished to Russell's Double sugar agar (Difco) slants. Streak and stab method. Two plates of B. Sulfite agar streaked from Selenite F. Enrichment broth.

Third Day: B. Sulfite Agar plates from first day planting read and desired colonies fished to Russell's Double Sugar slants.

Russell's Double sugar reaction read. The culture is gram-stained and, if pure, it is examined for motility. The culture is fished to eight tubes of semi-solid agar media, one of which contains dextrose, maltose, mannitol, lactose, saccharose, xylose, rhamnose and dulcitol.

Fourth Day: The carbohydrate reactions are read. If these are typical a tube agglutination test with the indicated positive anti-sera is set up. The stool specimen is then reported "(indicated organism enciting the disease) present."

The Bismuth sulfite agar plates from the second day are read and if positive colo-

nies have appeared which have not been confirmed from previous plates. These are examined as above shown. The specimen is reported as "No ( ) present," if second plate shows no growth. A known B. Typhosus control is used with each set of bismuth sulfite plates and one plate incubated uninoculated.

A known B. dysenteriae Sonne and Flexnor control is used with each set of desoxycholate citrate agar.

Extreme care should be exercised to prevent overheating of Bismuth sulfite agar either in storage or preparation of the media.

The known cultures are carried through the entire procedure in confirming the organisms present.

Summary

1. For first and second week after onset of suspected case of typhoid fever, submit to the laboratory 5 cc. of the patient's blood for cultural determination.

2. Seven days and after onset of suspected case of typhoid fever, submit stool to the laboratory for bacteriological growth and determination.

3. For release of patient and detection of carriers in typhoid fever, submit stool specimen to the laboratory for bacteriological determinations.

4. For the detection of bacillary dysentery, submit a stool specimen to the laboratory for bacteriological determination.

New Books

TREATMENT IN GENERAL PRACTICE: 259 pages. Little, Brown and Company, 34 Beacon Street, Boston, Massachusetts, 1939. Cloth, $7.50.

Recently the British Medical Journal carried out an interesting experiment. A series of articles on treatment was published, each article written by a well-known clinical teacher thoroughly familiar with his subject. Later the various articles were gathered together and published in book form. There were two volumes to the series. The first dealt with treatment of the acute infectious diseases and of cardio-vascular disease; the second with treatment of more chronic conditions such as diseases of the nervous system, diseases of the blood and blood-forming apparatus, rheumatism, diseases of metabolism, and kidney diseases.

For the first time these two volumes are published in the United States and will make valuable collateral reading giving to us clear cut phases of treatment as carried out in England and by some of the leading authorities.

CLINICAL DIAGNOSIS BY LABORATORY METHODS: By James Campbell Todd, Ph.B., M.D., Late Professor of Clinical Pathology, University of Colorado, School of Medicine; and Arthur Hawley Sanford, A.M., M.D., Professor of Clinical Pathology, University of Minnesota (The Mayo Foundation); Head of Division on Clinical Laboratories, Mayo Clinic. Ninth Edition, Thoroughly Revised. 841 pages with 368 illustrations, 29 in colors. Philadelphia and London: W. B. Saunders Company, 1939. Cloth, $6.00 net.

Clinical pathology has become a recognized specialty in medicine. Every year new methods that have been developed in research laboratories are added to the facilities of the clinical laboratory; consequently, the worker in this field must constantly grow in his knowledge of diagnostic procedures. But old and tried methods must not be forgotten or discarded unless they become obsolete.

In the preparation of this edition many changes have been considered necessary in order to make the book more valuable to students, teachers, physicians, and laboratory workers.

The description of colorimetric methods is no longer considered properly placed in the chapter on urinalysis; therefore, it has been transferred to the chapter on clinical chemistry. Some of the obsolete procedures in urinalysis have been deleted.

Among the new tests should be mentioned the technic for the determination of serum lipase, the technic for the determination of cevitamic acid and sulfanilamide in blood and urine.

In this edition are many new illustrations and the work in every way brought up to date.

CLINICAL GASTRO-ENTEROLOGY. By Horace Wendell Soper, M.D., St. Louis, Missouri. With 212 Illustrations. C. V. Mosby Co., St. Louis, 1939.

I quote the following sentence found on page 195 in the chapter on Ulcerative Colitis. "So many 'treatments' have been employed that I shall not describe them here, but will proceed at once with my own method." This sentence characterizes the attitude and literary style of the author in presenting the multitude clinical conditions found throughout the tract from the mouth to the anus. Only the essential facts and rational of the treatment of each condition is presented. Some of the author's pet treatments discussed are:

1. 10 per cent mercurochrome swab for most oral lesions.
2. Levin tube for gastric hemorrhage.
3. 10 per cent sodium sulphate enemas for hypotonic type of constipation.
4. Bismuth subgallate-calomel insufflation proceedure for ulcerative colitis.
5. Stovarsal for Bacillary or unexplained dysenteries.
6. Mag. Sulphate for gall-bladder drainage.
7. His aversion for raw or pasteurized milk in all his diets for gastric and colonic lesions.

Another feature of this book that adds immensely to its value, are the profuse roentgen illustrations of the various gastro-intestinal lesions. The X-ray prints are conveniently placed at the end of each chapter discussed. The prints in general are good and are representative of the lesions discussed in the chapter; they are of distinctive aid to the general practicioner to visualize some of the gastro-intestinal pathology by roentgen methods. Roentgen technique and fluoroscopic studies in diagnosis of alimentary lesions are not discussed. Neither does histology or pathology have any place in this book, because of the author's desire to make this book essentially clinical.

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EDITORIAL

OKLAHOMA CITY CLINICAL SOCIETY 1939 MEETING

Guest Speakers, attending physicians and exhibitors, all proclaim the 1939 meeting of the Oklahoma City Clinical Society a decided success. Increased interest, as evidenced by a larger registration, and the distance from which the conference drew attendants, speaks well for the continued growth and success of the Society. Guest speakers had heard of the high academic quality and marvelous precision of the meeting as far east as New York, and as far west as California; Associate members travelled from such distant states as Montana, Pennsylvania and California in order to attend the sessions. This is an indication of the widespread reputation of quality enjoyed by the conference.

The Oklahoma City Chamber of Commerce and the Biltmore Hotel gave splendid cooperation, and much of the early growth as well as the later success of the meeting can be credited to their fine support. The exhibitors, as usual, were enthusiastic and cooperative, and extended every effort to make this an outstanding session.

There is an unusually fine feeling of fellowship which amalgamates these many different factors, the guest speakers, the exhibitors, the Chamber of Commerce, the Biltmore Hotel and the attendants, that inspires them to work in close unity for a single purpose. It is this fellowship and cooperative harmony that will make the Annual Meeting of the Oklahoma City Clinical Society one of the most outstanding medical meetings in the nation.

READ THE ADVERTISING SECTION

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There are yet many firms who have not qualified and their detail men are calling upon the physicians of Oklahoma. We cannot be sure of the standard of the products they present and there is no good reason why we should accept them. It costs nothing to submit a product to the various councils of the American Medical Association and we feel their action or stamp of approval can be relied upon by our readers.

It is the same argument presented in previous editorials on this subject; read the advertisements and patronize our advertisers.

Group Hospitalization Committee Report

A Group Hospital service plan for Oklahoma on a mutual non-profit basis is rapidly approaching reality since the recent meeting of the Oklahoma State Hospital Association in Oklahoma City and its appointment of a committee composed of Dr. L. E. Emanuel of Chickasha, Sister Mechtildis Eickholt of Oklahoma City, R. L. Loy, Jr., of Oklahoma City, J. A. Bivins, Jr., of Ardmore, Dr. G. D. Funk of El Reno, and E. U. Benson of Cushing, to work with the committee from the Council of the Medical Association composed of Councilors V. C. Tisdal, A. S. Risser, Philip M. McNeill, James Stevenson, and J. A. Walker.

The necessity for such an organization was brought forcibly to the attention of the Council of the Association when, in June, it was discovered that there were more than 10 different plans of one type or another having a charter to do business in the State of Oklahoma under the Mutual Casualty Company Act of 1931. Section 10750, subsection 3 or 7 of this act allowed the forming of a mutual non-profit company upon the presentation to the Insurance Board of the proper legal documents, together with financial assets of five times the amount of a single liability under one contract. As an example, if a contract called for 30 days' hospitalization at $5 a day, the total liability under the contract would be $150. Five times this amount, $750, was then all that was necessary for the formation of a company. Investigation at the Insurance Department disclosed the astounding fact that the majority of the companies with charters were operating with an original capitalization of less than $1,000.

With these startling facts known, together with the increasing public demand for this type of coverage (and the majority of cases coming from groups that are in the income field most widely needing to have hospitalization), President W. A. Howard appointed a committee composed of V. K. Allen of Tulsa, John Carson of Shawnee, and John E. Heatley of Oklahoma City, to make investigations of other known group plans that had met with success and had been properly administered.

This committee made detailed study of the vast majority of plans in operation in the United States, and also gave extremely careful study to the recommendations of the American Hospital Association, the American Medical Association, and the American College of Surgeons. After careful deliberation of many weeks, the committee submitted its report to the Council of the Association. The present Committee of the Council was then appointed to continue study of the subject, as well as to consider the proper and most expedient way of organizing a plan that would eventually be statewide in coverage, have civic appeal, and be non-profit in every sense of the word.

This committee met numerous times, thrashing out many details, and on September 21 invited leading business men, members of the Council of the Association, officers of the Hospital Association, and other leading hospital owners, to a dinner and hear the subject discussed by Walter R. McBee, of St. Louis, associate director of Group Hospital Service, Inc., probably the most successful plan in operation today.

The following night Mr. McBee appeared before the officers, members of the board, and the Insurance Committee of the Tulsa County Medical Society. The response from these two meetings was so enthusiastic that, immediately, the Committee from the Council felt justified in requesting the officers of the Oklahoma State Hospital Association, that they be allowed to meet with them and discuss the advisability of working out together a plan of organization and a contract that would be acceptable to both organizations since it should have the support of both organizations.

This request met with enthusiastic approval from the officers of the Hospital Association, and from the meeting of the two Associations came tentative approval of the principles of the undertaking. However, the officers of the Hospital Association requested that, since the meeting of the State Hospital Association was only a few weeks away, no definite action be taken until after their meeting. Hence, on November 16 and 17, the dates of the Hospital Association meeting, the Council of the Association was called in session to consider any proposals that might come from the Hospital Association. The latter, after careful and lengthy deliberation, instructed its president to appoint a committee to continue study with the Committee from the Medical Association on the organization of such a program.

These two committees are now in a position to work out final details for the formation of a program that will give hospitalization to the people of Oklahoma on a basis that they can afford to maintain. The final results of this six months' study will be announced as soon as possible.

A brief survey of the original recommendations of the first committee, and which no doubt the final deliberations will follow basically, are that the board of governors of the plan will have its representatives picked from the Hospital Association, the Medical Association, and the laity. The officers of the organization then will be picked from this board and will be men or women who are philanthropic and public-spirited, who will serve without pay, and who will, by virtue of their position in the business and civic world, lend honesty and integrity to the plan, as well as their proven ability in business judgment and management.

This procedure clearly takes the Medical and Hospital Associations out of the insurance business, as neither will invest any of their funds in the capitalization of the company. Neither will there be any members of either Association in its employment.

The entire program and the part played by the Association in giving impetus to the plan has always been and will continue to be the effort of the Medical Association to give to the people the most feasible and economical care from a medical standpoint that is in direct ratio with progressive medicine and business and financial stability.

Secretary-Editors Conference

This meeting held at A.M.A. Headquarters, Chicago, November 17 and 18, was attended by both the Secretary-Treasurer-Editor and Executive Secretary.

The time was largely taken up with discussion of two subjects. First—Distribution of Medical Care. Second—Legislative Problems.

Addresses of great interest and broad in scope were given by Dr. Rock Sleyster, President, and Dr. Nathan B. VanEtten, President Elect.

Medical service plans were presented from the states of New Jersey, Michigan, Washington and Pennsylvania. Following this presentation there was liberal discussion as to the strong and weak points of each plan, it appearing that no plan can be universally adopted as it takes a different pattern to fit different localities with their vastly varying conditions. Their presentation would be difficult to abstract in this report but will be available either in The Journal of the A.M.A. or in pamphlet form.

The Wagner Health Bill was discussed by W. C. Woodward, Director of the Bureau of Legal Medicine and Legislation, and he feels that there is no doubt about the consideration of this bill in the next session of Congress. We must be prepared for this and make our plans to do everything possible to see to it that the private practice of medicine is not destroyed. It means the expenditure of time and money to bring the true and correct information to the people of this country relative to the accomplishments and methods of the Medical Profession. It is not for the paid executives alone to carry on this work; each State and County Society must be properly organized and what is still most important, the individual physician must accept his portion of the responsibility.

At the Editor's Banquet Dr. Samuel J. Kopetzky of New York was the speaker and presented much food for thought to the Editors relative to the conduct of a Medical Journal. His address was liberally discussed and many valuable ideas were presented.

The Platform of the American Medical Association was presented to the conference and discussed by Dr. Fishbein. The Platform is as follows and the discussion will be published in the January issue of the Journal. This discussion is published in the November 25th issue of the Journal of the A.M.A.

The Platform of the American Medical Association

The American Medical Association advocates:

1. The establishment of an agency of the federal government under which shall be coordinated and administered all medical and health functions of the federal government exclusive of those of the army and navy.

2. The allotment of such funds as the Congress may make available to any state in actual need, for the prevention of disease, the promotion of health and the care of the sick on proof of such need.

3. The principle that the care of the public health and the provision of medical service to the sick is primarily a local responsibility.

4. The development of a mechanism for meeting the needs of expansion of preventive medical services with local determination of needs and local control of administration.

5. The extension of medical care for the indigent and the medically indigent with local determination of needs and local control of administration.

6. In the extension of medical services to all the people, the utmost utilization of qualified medical and hospital facilities already established.

7. The continued development of the private practice of medicine, subject to such changes as may be necessary to maintain the quality of medical services and to increase their availability.

8. Expansion of public health and medical services consistent with the American system of democracy.

Fellowships In the Medical Sciences of the National Research Council

These fellowships, administered by the Medical Fellowship Board of the National Research Council, are open to citizens of the United States or Canada who possess an M.D. or a Ph.D. degree, or equivalent experience and achievement. They are intended for recent graduates who, as a rule, are not more than 30 years of age.

The fellowships are designed to provide research discipline for men and women who are fitted for medical investigation. Fellows may choose any branch of medicine or public health for their ultimate career, but at present candidates (otherwise suitable) will be favored who plan to specialize in one of the preclinical sciences or to approach clinical medicine and surgery through identification with one of the sciences.

The fellowships are not granted to any institution or university. The choice of place to work is left to the fellow, subject to the approval of the Fellowship Board; but, as a rule, fellows will be expected to do their work in this country. The appointments are for full time and no other remunerative or routine work is permitted.

Ordinarily, before sending his application to the Board, a candidate should have assurance from the person with whom he wishes to work that he is acceptable. It is further requested that a fellow be charged no fees or tuition by the institution where he chooses to work.

The annual stipends are determined by individual circumstances and by cost of living in the location of study. The usual amount is from $1,600 to $2,400 per annum. The fellowships are usually granted for one year, but they may be renewed. Stipends may be increased on account of additional dependents, or for other cogent reasons, but only at the beginning of a new fellowship year. Fellows are chosen at annual meetings of the Medical Fellowship Board in February, and applications to receive consideration at these meetings must be filed on or before January 1. Appointments may begin on any date determined by the Board.

Further particulars concerning these fellowships may be obtained on request.

Address communications to the Secretary of the Medical Fellowship Board, National Research Council, 2101 Constitution Avenue, Washington, D. C.

Important Notice

Dr. J. E. McDonald, Chairman of the General Surgical Section for the State Medical Association, requests that members desiring to present papers before this section at the May meeting submit titles and short abstracts of the proposed papers.

Send these to Dr. J. E. McDonald, 309 Medical Arts Building, Tulsa, Oklahoma, not later than January 15, 1940. When these titles and abstracts are received, they will be reviewed by the General Surgical Section Committee, and a diversified program selected therefrom.

Those whose papers are selected will be notified shortly after January 15 so that they will have ample time to complete their material for presentation at the annual meeting to be held in Tulsa May 6, 7 and 8.

Physicians Attending the Meeting of the Southern Medical Association at Memphis

The following Oklahoma Physicians attended the Meeting of the Southern Medical Association at Memphis and report a splendid meeting with fine scientific and entertainment features:

Allen, Victor K., Tulsa.
Alexander, Robt. L., Okmulgee.
Anderson, Robt. M., Shawnee.
Andreskowski, W. T., Ryan.
Balyeat, Ray M., Oklahoma City.
Barnes, Harry E. (wife), Tahlequah.
Baylor, Richard A. (wife), Fairfax.
Bell, A. H. (wife), Oklkahoma City.
Boadway, F. W., Ardmore.
Bondurant, Chas P. (wife), Oklahoma City.
Bonnell, W. LeRoy, Chickasha.
Byrum, James M., Shawnee.
Cameron, P. B., Tulsa.
Canada, Ernest A., Ada.
Chambers, Claude S., Seminole.
Collopy, Paul Jos., Oklkahoma City.
Cook, W. Albert, Tulsa.
Cooper, F. M., Oklahoma City.
Cotteral, John Robt., Henryetta.
Cottrel, John R., Oklahoma City.
Crawford, Paul H., Oklahoma City.
Curry, Jas. F. (wife), Sapulpa.
Darwin, D. W. (wife), Woowward.
Doler, Calhoun (wife, daughter and son-in-law), Clinton.
Denny, E. Rankin, Tulsa.
Drummond, N. Robert, Oklahoma City.
Dyer, Isadore (wife), Tahlequah.
Eastland, William E., Oklahoma City.
Ellis, Stephen S., Oklahoma City.
Emanuel, Roy E. (wife), Chickasha.
Ferguson, E. Gordon, Oklahoma City.
Fishman, C. J. (wife), Oklkahoma City.
Fite, W. Pat (wife), Muskogee
Foerster, Hervey, A. (wife), Oklahoma City.
Gibson, R. Berry (wife), Ponca City.
Gillis, Eugene A. (wife and daughter), Oklkahoma City.
Gentry, Raymond C. (wife), Bartlesville.
Glomset, John L. (wife), Oklahoma City.
Goldfain, E., Oklahoma City.
Harbison, J. E. (wife), Oklahoma City.
Haralson, Charles H., Tulsa.
Hassiser, F. (wife), Shawnee.
Hassler, Grace C., Oklahoma City.
Hazel, Onis G. (wife), Oklahoma City.
Hollingsworth, James I., Waurika.
Howard, R. M., Oklahoma City.
Hudson, H. Hackney, Enid.
Hudson, Walter Scott, Okmulgee.
Hull, Wayne M., Oklahoma City.
Jeter, Hugh G., Oklahoma City.
Keen, Frank M., Shawnee.
Lain, Everett S., Oklahoma City.
Lamb, Ellis, Clinton.
Lamb, John Henderson (wife), Oklahoma City.
Long, Wendell, Oklkahoma City.
Love, Robt. S. (wife), Oklahoma City.
McBride, Earl D., Oklkahoma City.
McBurney, C. H. (wife), Clinton.
McFarling, A. C., Shawnee.
McHenry, L. C. (wife), Oklkahoma City.
McKinney, Garland Young, Henryetta.
McKinney, G. Y., Oklahoma City.
Mechling, George S. (wife), Oklahoma City.
Messenbaugh, Jos. Fife (wife), Oklahoma City.
Moor, H. D., Oklahoma City.
Morrison, Henry C., Oklahoma City.
Morrow, J. A. (wife), Oklahoma City.
Munding, L. A. (wife), Tulsa.
Murdoch, R. L., Oklahoma City.
Osborn, Geo. R. (wife), Tulsa.
Pace, L. Rio, Seminole.
Patterson, Robert U., Oklahoma City.
Phelps, Malcom E. (wife), El Reno.
Pounders, Carroll M., Oklahoma City.
Renegar, J. Frank, Tuttle.
Ritzhaupt, Louis H., Guthrie.
Rollins, J. Stephens (wife), Prague.
Ross, Saml. P. (wife), Ada.
Salomon, Albert L., Oklahoma City.
Schreck, Philip M. (wife), Tulsa.
Shepard, Robt. M., Tulsa.
Showman, Winfred A. (wife), Tulsa.
Smith, Carlton E., Henryetta.
Smith, Ned R. (wife), Tulsa.
Stevenson, James, Tulsa.
Stough, Austin Robert (wife), Tecumseh.
Stuart, Frank A., Tulsa.
Trent, Robert I (wife), Oklahoma City.
Turner, Henry H. (wife), Oklahoma City.
Van Sandt, Max M., Wewoka.
Vernon, William C. (wife), Okmulgee.
Wails, Theodore G. (wife), Oklahoma City.
Walker, I. D., Tonkawa.
Watkins, Barton H., Hobart.
Weaver, Wm. Niebuhr, Muskogee.
West, W. K. (wife), Oklkahoma City.
Wickham, M. M., Norman.
Widener, Saml. Sherman, Pond Creek.
Wiley, A. Ray (wife), Tulsa.
Wilkins, Harry (wife), Oklahoma City.
Willie, James A. (wife), Oklahoma City.
Word, L. B. (wife), Bartlesville.
Worten, Divonis, Pawhuska.

Examinations
American Board of Obstetrics and Gynecology

The written examination and review of case histories (Part I) for Group B candidates will be held in the various cities of the United States and Canada on Saturday, January 6, 1940, at 2 p.m. Formal notice of the place of examination will be sent each candidate several weeks in advance of the examination date. No candidate will be admitted to examination whose examination fee has not been paid at the Secretary's Office. Candidates who successfully complete the Part I examination proceed automatically to the Part II examination held in June, 1940. Receipt of Group B applications for the current examination (January 6, 1940) closed October 4, 1939.

The general oral and pathological examinations (Part II) for all candidates (Groups A and B) will be conducted by the entire Board, meeting in Atlantic City, N. J., on June 8, 9, 10 and 11, 1940, immediately prior to the annual meeting of the American Medical Association in New York.

Application for admission to Group A, Part II, examinations must be on file in the Secretary's Office not later than March 15, 1940.

After January 1, 1942, there will be only one classification of candidates, and all will be required to take the Part I and Part II examinations.

For further information and application blanks, address Dr. Paul Titus, Secretary, 1015 Highland Building, Pittsburgh (6), Pennsylvania.

New Woods County Officers Reported First

First reports of newly elected county officers to reach the office of the Executive Secretary came from Dr. O. E. Templin, secretary of the Woods County Society.

They are as follows: President, Dr. Theodore D. Benjegerdes of Beaver; Vice President, Dr. Charles A. Royer, Alva; Secretary, Dr. Oscar E. Templin of Alva; and Delegate, Dr. Daniel B. Ensor of Hopeton. The officers were elected at the November 27 meeting.

Following the election, Dr. C. O. Von Wedel of Oklahoma City spoke on "The Role of Plastic Surgery in Injuries of the Face;" Dr. Paul Colonna of Oklahoma City, talked on "Acute Osteomyelitis;" and Dr. R. L. Noel of Oklahoma City used as his subject, "Fractures About the Elbow Joint."

State Licenses to Physicians

Physicians licensed during the period from January 10, 1939, to August 24, 1939, to practice in Oklahoma, and their present locations, are as follows:

Alwyn Travers Kornblee, Kansas City, Mo.; John L. Scott (colored), Boley; James France Shaw, Wetumka; George Warren Scott, Tishomingo; J. H. Blackburn, Denison, Texas; Howard C. Hopps, Fairview; Fred B. Cooper, McAlester; Thomas Taylor Beeler, Jr., San Diego, Calif.; Allen Grant Flythe, Durant; Clayton Hamilton Halverson, Tulsa; Stephen Stuart Ellis, Oklahoma City; Weldon Doak Blassingame, Ardmore; Dan M. Forbes, Texhoma; Paul B. Rice, Oklahoma City; Chester R. Seba, Oklahoma City.

Herbert Berzelious Shields, Wauwatosa, Wis.; William Henry Doyle, Louisville, Ky.; John Robert Davenport, Holdenville; Murble Henry Pearson, Perryton, Texas; John Williams Records, St. Louis, Mo.; Ray Ulman Northrip, Oklahoma City; T. Willard Pratt, Cheyenne; Rugie R. Coates, Duncan; William Randolph Cheatwood, Oklahoma City; Alexander Shadid, Elk City; Gervais Dean Smith, Picher; John Banner Terry, Wewoka; Warren Beall Poole, Oklahoma City; William Claude McCurdy, Jr., Purcell; Charles Earnest McArthur, Seattle, Wash.; John B. Rafter, Muskogee; Joseph Cannon Hibbett, Jr., Oklahoma City; Kieffer Dixon Davis, Nowata; William Polk Longmire, Jr., Sapulpa; Leslie Thompson Hamm, Oklahoma City; Bernard Eugene Bullock, Clinton.

John Russell Hubbard, Oklahoma City; Raymond A. Williams, Manhattan, Mont.; Earle W. Warren, Pasadena, Calif.; Dora W. Stevenson, Stillwater; Troy Frank Long, Okemah; Earl Morris Lusk, Tulsa; William Corder Alston, Jr., Vicksburg, Miss.; Meyer Kurzner, Oklahoma City; James Daniel Huskins, Oklahoma City; Sam T. Moore, Oklahoma City; Cecil Ewing Miller, Washington, D. C.; Hugh Malcolm Galbraith, Oklahoma City; David Shapiro, Tulsa; Frederick James Smith, Okeene; Percival LeMon Clark, Oklahoma City; Herbert Marvin Sanford, Perryton, Texas; John J. Cawley, Jr., Oakland, Calif.; Roy Junior Melinder, Claremore; Clyde Vincent Kern, Denver, Colo.; Clarence A. Buttran, Oklahoma City; James Ralph Ricks, Jr., Oklahoma City; Robert William Choice, Wakita.

Homer Clark Wheeler, Oklahoma City; Ivan Edward Bigler, Claremore; John Philip Haddock, Norman; Rheba LaLora Huff, Norman; Marvin Elkins, Orange, N. J.; Howard Angus, Lawton; Ernest A. Henderson, Birmingham, Ala.; Mack Irvin Shanholtz, Seminole; Rupard Glenn Smith, Minneapolis, Minn.; Victor David Mills, Portland, Ore.; Gilbert W. Tracy, Cheyenne; Rudolph Henry Duewall, Sentinel; Robert Milton Hall, Denver, Colo.; Robert Theodore Sturm, Detroit, Mich.; William Harrell Webster, Ada; Woodrow Louis Pickhardt, Chicago, Ill.; Eugene B. Ley, Detroit, Mich.; Murray Everette Gibbens, Oklahoma City; William Charles McClure, Oklahoma City; Elmon Laurence Collette, Dewey; Philip Crane Risser, Blackwell.

Commonwealth Fellowships

Announcement has been made by directors of the Commonwealth Fund of the eight fellowships which have been awarded for postgraduate work at Tulane University, New Orleans, La., beginning January 8, 1940.

The physicians receiving the fellowships are: Dr. William G. Dunnington of Cherokee; Dr. Ishmael F. Stephenson of Alva; Dr. Malcom E. Phelps of El Reno; Dr. Wendell L. Smith of Drumright; Dr. Hugh H. Monroe of Lindsay; Dr. Clella M. Hodgson of Kingfisher; Dr. Battey B. Coker of Durant; and Dr. George K. Hemphill of Pawhuska.

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Southern Oklahoma Medical

The Southern Oklahoma Medical Association held its 45th quarterly session at Hotel Ardmore, Ardmore, Tuesday, December 5, under auspices of Carter County Medical Society. The association covers the counties of Caddo, Carter, Cleveland, Comanche, Cotton, Garvin, Grady, Jefferson, Johnson, Love, Marshall, McClain, Murray, Pontotoc, Pottawatomie, Seminole and Stephens.

Subjects featuring the program included: "The Relation of the Medical Profession to the Public," Dr. John L. Holland, Madill (with general discussion). "A Classification of Nervous and Mental Diseases Suitable to the General Practitioner," Dr. Charles L. Rayburn, Central State Hospital, Norman (general discussion). "Obstetrics," Dr. E. N. Smith, Post Graduate Instructor, American Medical Association. "Inhalation Therapy," Dr. Wayne M. Hull, Oklahoma City (general discussion). "Recent Development in Psychiatric Treatment," Dr. Arthur J. Schwenkenberg, Dallas, Texas (general discussion). "Interpretation of Heart Murmurs," Dr. George L. Carlisle, Dallas, Texas (general discussion).

Dinner was served at 6:30 at the Ardmore Hotel with entertainment by Douglas High School Quartette, and was enjoyed by all.

The sessions of the Southern Oklahoma Medical Association are always well attended and are a valued source of information and inspiration to its membership.

Basic Science Examinations

Examinations in the basic sciences are held twice a year, in the months of May and November, the dates being set by the state board of examiners, according to Dr. J. D. Osborn, Jr., secretary.

Those desiring to take the examination should apply for application blanks to the Secretary of the State of Oklahoma, the Hon. C. C. Childers, State Capitol, Oklahoma City.

Examination fees are $15, to be paid to the secretary, Dr. Osborn, at the time of entrance to the examination room. Personal checks will not be accepted.

Army Has Medical Post Openings

As a result of recent expansion of the United States Army, there is an opportunity for suitable young medical men to apply for reserve commissions as first lieutenants and obtain active detail at once, or for reserve corps officers to obtain extended duty.

They must be graduates of a Class "A" medical school and have had internship, or its equivalent in actual practice. At present, an opening exists for two men for duty at Fort Sill.

Editorial Notes—Personal and General

Members of the Woods County Medical Society furnished the program for Garfield county physicians in their late November dinner meeting at the Hotel Youngblood in Enid. Dr. D. B. Fensor of Hopeton presided, and talks were made by Dr. C. A. Traverse and Dr. C. A. Royer, both of Alva. Thirty-five doctors attended.

Organization of the medical staff of Stillwater's new $120,000 municipal hospital, which was opened in November, was near completion late last month. The newly elected executive board consists of Dr. C. E. Sexton, president; Dr. L. A. Cleverdon, vice president; and Dr. Powell E. Fry, secretary-treasurer.

Among the state doctors commissioned as first lieutenants in the regular army medical corps are Dr. Cannon A. Owen of Oklahoma City, who was assigned to Fort Crockett, Galveston, Texas; Dr. William H. Amspacher of Lawton, also assigned to Fort Crockett; and Dr. Glenn J. Collins of McAlester, to West Virginia.

Dr. David W. Gillick, superintendent and physician in charge of the Shawnee Indian Sanatorium, has been appointed district medical director for district No. 5 of the U. S. Indian Service, succeeding Dr. Walter S. Stevens, whose death occurred recently. Dr. Gillick's territory includes all of Oklahoma, Kansas, Mississippi, North Carolina and Florida, with offices in Oklahoma City. He will be succeeded at the sanatorium by Dr. Ralph M. Alley, formerly physician in charge of the Indian hospital at Pine Ridge, North Dakota.

Dr. Henry H. Turner appeared on the program of the Mid-Continent Dental Association meeting in St. Louis on October 4. He spoke on the "Role of Endocrinology in Dental Medicine."

Dr. Rex Bolend has recently moved his office from 1010 Medical Arts Building, Oklahoma City, to 1205, same building.

Dr. George H. Kimball was guest speaker at the Cleveland County Medical Society Meeting November 9, 1939. His subject was "Plastic Surgery."

OBITUARIES

Dr. George N. Bilby

Dr. George N. Bilby, who had served as state commissioner of public health for four years during the administration of William H. Murray, died November 26 in the Edward J. Hines Memorial Hospital for war veterans near Chicago. He was 71 years old.

Dr. Bilby came to Oklahoma in 1894 from Louisville, Ky., where he attended the school of medicine, and lived first at Cushing and later at Stroud. He moved to Alva in 1899, where he maintained his residence the remainder of his life.

During the World war, he served as a medical officer for 13 months. Surviving are his wife and a daughter, Miss Afton Bilby of Alva; and two sons, Lee and Paul, both of Pearidge, Ark.

Funeral services were held at Alva November 29, with the Rev. G. A. Parkhurst, pastor of the Alva Methodist church, officiating. Burial was at Alva.

Resolution

Dr. T. O. Crawford, Dewey, Oklahoma, born August 5, 1873, at Buckner, Illinois. Died Friday, October 20, 1939.

He attended the Southern Teachers College, Carbondale, Illinois, Washington University, St. Louis, Missouri, and University of Southern California at Pasadena. He was a graduate of the University of Colorado Medical School.

Dr. Crawford practiced medicine at Bay, Arkansas, Beggs, Bartlesville and Dewey, Oklahoma.

He is survived by his widow, Elizabeth Severns Crawford. His sons, T. O. Crawford, Jr., and Dr. G. W. Crawford preceded him in death.

Dr. Crawford specialized in the practice of Urology, and his ability was recognized by his fellow practitioners. He was a conscientious student of medicine.

Be it resolved by the Washington County Medical Society that a copy of the foregoing written expression of our esteem be placed in the minutes of the County Society and a copy be mailed to the office of the State Medical Association Journal and a copy be sent to the widow of the deceased.

Adopted unanimously.

Forest S. Etter, M.D.
E. E. Beechwood, M.D.

ABSTRACTS : REVIEWS : COMMENTS *and* CORRESPONDENCE

SURGERY AND GYNECOLOGY

Abstracts, Reviews and Comments from
LeRoy Long Clinic
714 Medical Arts Building, Oklahoma City

The McClure-Aldrich Test in Water Balance Following Operation: Howard C. Hopps, B.S., M.D., Chicago, Illinois, and Frederick Christopher, B.S., M.D., F.A.C.S., Evanston, Illinois; Surgery, Gynecology and Obstetrics, November, 1939, Vol. 69, page 637.

There is a brief concise review of the excellent work done upon water balance by Coller and Maddock but these writers feel that the quantitative measurements of intake and output as described by Coller and Maddock are involved beyond the scope of the average hospital.

They point out that the usual guides in the management of water balance after operation are: (a) the clinical picture; (b) the urinary output; (c) quantitative measurements of intake and output; (d) the erythrocyte count; (e) the hemoglobin determination; and (f) the blood protein level. The clinical picture of the dry skin and dry tongue is unfortunately too familiar and should never be allowed to develop in the surgical patient to the point where it is clinically recognizable.

While sodium must be sufficiently replaced when lost by vomiting, its too liberal use in physiological saline or Ringer's solution as a routine fluid for intravenous infusion frequently brings about an oversufficiency of sodium, sometimes to the extent that edema is clinically evident.

With these thoughts in mind the authors have attempted a study on seven patients using the McClure-Aldrich test after operation in an effort to determine its value as a guide to the state of hydration.

This test consists of a measurement of the disappearance time of an artificial injected wheal of normal saline. The test was at first applied in cases of nephritis in an effort to determine the thirst of the subcutaneous tissue and thus estimate the severity, prognosis, and progress of the disease. Since that time it has received wider application and has been used in the study of vascular disease, cardiac failure, toxemia of pregnancy, scarlet fever, and other diseases. Until this time its use has been generally limited to those conditions in which edema plays a part, to measure the edema and detect it before it is clinically evident. The authors admit that there is considerable dispute about the mechanism of the test.

It is generally accepted, however, that disappearance of intradermal wheal is due almost solely to a dispersement of the fluid into the interstitial spaces and cells and that the length of time that this transfer takes, as measured by the disappearance of the wheal, is inversely proportional to the tissue avidity for water.

In the cases studied the management of water balance after operation was carried out independently of the McClure Aldrich test as a guide.

The test was made with an intradermal injection of 0.2 cubic centimeter of normal saline solution on the arms and chest with tests performed four to two hours before operation, two to four hours after operation, and thence every 24 hours at approximately the same time each day until a near normal fluid balance was considered established.

In their cases the test was found to be a sensitive and reliable index to the state of hydration. It was also found to be a useful guide to the optimal fluid administrations, provided the electrolytic balance was taken into consideration and in patients who were receiving large amounts of physiological saline solution and had developed slight edema from too much sodium, the test must be discounted.

"Although this series is too small to be conclusive, the McClure-Aldrich test appears to be a valuable adjunct to the clinical appearance of the patient, to the intake and output studies, and to the blood studies in the estimation of hydration after operation."

Comment: Water balance is recognized as of tremendous value in patients who are to be operated upon and those who are in their postoperative course. The extent of dehydration at operation was markedly demonstrated by the work of Coller and Maddock. All means which can give a more accurate idea as to the optimal fluid administration in order to overcome this dehydration are important.

While all of the usual guides of the management of water balance after operation cannot be neglected in any way, it is interesting to have the McClure-Aldrich test advanced as an additional simple means of directing our judgement as to the administration of fluids. As the authors have cautioned, the electrolytic balance must be duly considered in evaluating the results of this simple test.

Wendell Long.

"The Maintenance of Nutrition in Surgical Patients, With a Description of the Orojejunal Method of Feeding." By Alfred Stengel, Jr., A.B., M.D., and I. S. Ravdin, B.S., M.D., Philadelphia, Pa. Surgery, Vol. 6, October, 1939, page 511-519.

The nutrition of the surgical patient has become of increasing importance to the surgeon since it has been shown that a variety of complications following anesthesia and operation are the result of prolonged nutritional disturbances. It has been shown that the liver with a high carbohydrate-protein store is the one that is best prepared to withstand the insult of a volatile or lipid solvent anesthetic.

Ravdin and his co-workers have found by experimental and clinical studies that gastric emptying time is greatly prolonged in hypoproteinemia, even in the intact stomach and even though there is no deficiency of any known accessory foodstuff. They have also found that hypoproteinemia is associated with a delay in fibroplasia in the dog and have suggested that this condition may be a factor in wound disruption in surgical patients.

Not only is there frequently a deficiency in the primary foodstuffs, but many of the patients coming for operation also have a subclinical or clinical

deficiency of certain of the vitamins. A deficiency in the B complex results in prolongation of the period of emptying of a water-barium meal from the stomach. The vitamin C deficiency results in a marked delay in wound healing. The use of vitamin K and bile salts in overcoming the prothrombin deficiency of patients with obstructive jaundice is still another example of the importance of nutrition in surgical patients. Hypoproteinemia may cause and accentuate the edema around a newly formed gastroenteric anastomosis, so as to mimic in every way a technical defect of the anastomosis.

These complications of surgical patients, many of which were previously explained on a mechanical basis, have greatly increased the interest of the surgeons in the state of nutrition of patients who are to be subjected to operation.

A high carbohydrate-protein dietary is the most satisfactory method of supplying the primary nutritional requirements of the surgical patient, without increasing the hazards of anesthesia and operation.

The oral method is not only the method of choice for the administration of carbohydrate, protein, and the necessary fat, but it is also a very satisfactory route for the administration of the accessory food-stuffs, the vitamins. Ravdin believes that a diet which contains 60 to 80 per cent carbohydrates, 20 to 30 per cent protein, and five to ten per cent fat in total calories is satisfactory. He believes that the level of fat in the diet should be kept as low as possible, for a supply of hepatic glucogen is effective in preventing necrosis of the liver only if the hepatic lipid concentration is reduced as the result of the glucogen deposition. During the period of oral feeding, the intravenous use of glucose is of value only for the effect it has in sparing protein stores, because the total calories available from 3,000 c.c. of a five per cent glucose solution are only 600, which is about one-third of the basal caloric requirements.

As the result of anorexia or obstruction adequate oral feeding is often not possible. If the nutritional state of the patient is such that a major operation is extremely hazardous, it is at times wise to perform a jejunostomy to feed the patient. However, the drainage of the stomach for several days by the method of Wangensteen frequently results in the disappearance of some of the edema associated with the obstruction so that a Levin tube will pass into the jejunum. If this can be brought about intensive orojejunal feeding can be begun.

Where feeding is carried out after a gastric resection or simple gastroenterostomy, the special Abbott gastrojejunal tube is passed into the distal loop of jejunum before closing the abdomen. The Abbott tube permits of suction from the stomach through one lumen and feeding into the jujunum through the other.

Either before or after operation, as the case may be, a feeding mixture can be administered through the tube. The feeding mixture used by the authors is a peptone hydrolysate supplied by Merck and Company. The ratio of amino nitrogen to total nitrogen of this preparation is 1 to 1.87. This peptone is put in solution in boiling water and varying amounts of glucose are added, depending upon the concentration of protein and carbohydrate desired in the final feeding mixture. In addition they daily add sufficient sodium choloride to maintain a normal plasma chloride concentration. With this method intravenous fluid and salt administration is not required and the patient can be supplied sufficient calories for energy requirements and for maintaining or replenishing a protein deficiency.

It has been the author's experience that the early introduction of a feeding mixture into the distal jejunum results in the earlier return of peristaltic activity after the operation. They have been impressed by the smoothness of the convalescence and by the fact that the patients did not request food even though oral jejunal feeding in some instances has been continued for as long as 14 days after operation and the caloric intake has not been high. During this period of time, fluid and electrolyte balance, as a rule, can be maintained without resort to intravenous administration. This is of some importance for it has been their experience that phlebitis frequently occurred where prolonged intravenous therapy, especially glucose, is maintained. The injudicious intravenous use of large amounts of sodium chloride in the postoperative period frequently precipitates edema in a patient who would not have developed this complication had nutrition been maintained and had not the water and salt intake been excessive. Ravdin believes that too much emphasis has been placed on the fluid and salt requirements of these patients and too little on associated factors which play in important part in keeping fluids in the blood vessels.

The method need not be used in all cases for not all patients have suffered prolonged nutritional deficits. It can be used, however, in every patient subjected to a gastroenteric anastomosis where suction drainage is to be carried out after operation, for in them it simplifies the postoperative management since the nutritional requirements of the patient can be more adequately fulfilled.

Warren Poole.

Cysts of the Thyroid—Observations—Commentaries (Kystes Thyroidiens — Observations — Commentaires. By Real Dore. L'Union Medicale du Canada, Volume 68, No. 10, October, 1939.

A married woman, 38 years of age, presented herself for examination March 22, 1939. She complained of excessive fatigue, anorexia, nervousness, palpitation of the heart, constipation and insomnia. All these symptoms had begun about three years before, and had gradually increased in intensity.

There was also complaint of a swelling in the front part of the cervical region, noticed for about two years before the examination.

There had been but little change in weight, the weight being usually around 125 pounds.

The general aspect of the patient was bad. There was practically entire loss of pigment in skin and mucous membranes (la peau et la muqueuse sont completement decolorees). The thyroid gland was enlarged to twice its normal size. It was rather firm (plutot dure). The anterior part of the left lobe presented a spherical, renitent swelling (in French "renitente," the spelling being the same as in English, with the exception that an e is aded to the French spelling. In either case, referring to a tumor, the adjective indicates "resistence to pressure"). It was about the size of an egg (du volume d'un oeuf).

The lungs were normal. There was no evidence of excessive irritability of the heart (erethisme cardiaque). No abnormality was discovered in the abdomen, in connection with the pelvic organs, or the kidney areas.

There was no evidence in history or examination of any important hereditary or antecedent difficulty. There was no history of familial goiter.

Blood pressure 120/90. Pulse 80. Weight 134 pounds. B.M.R. minus nine per cent.

An electrocardiogram was normal. Both chemical and microscopic examination of the urine normal.

Both non-protein — nitrogen in the blood, and blood sugar within normal limits.

The author asks the question: "To what category of goitrous patients does this patient belong? (A

quelle categorie de goitreuses appartient cette patiente?). The comments in answer to the self-propounded question are so exact and logical that they are referred to here in extenso.

It is remarked that in simple goiter there is enlargement of the thyroid gland without any disturbance of the general condition of the patient. This is not true in the case of this particular patient, and the inference is that simple goiter may be excluded from consideration.

Attention is then called to the fact that toxic goiter is always accompanied by the syndrome of hyperthyroidism. That is not true in the case reported, because the elements that make up such a syndrome, such as tachycardia, cardiac irritability in a state of rest, emaciation, nervousness, tremor and a heightened basal metabolism are not present here.

A consideration of malignancy as an explanation for the enlargement of the thyroid is considered, and in that connection it is indicated that malignancy (cancer) usually arises from an old adenoma, and that this transformation from ordinary adenomatous tissue to malignant tissue is characterised by a woody firmness of the tumor. That is not true in the case of the patient.

One must eliminate a cyst of the thyroid containing lemon-colored or yellowish liquid material, remembering at the same time that such cysts may be simple or frankly toxic. A cyst of this character is designated by the author as "un kyste a liquide citrin."

It is remarked that when a cyst of the thyroid cannot be classified in the category of simple or toxic goiters it must be concluded that it is a hemorrhagic cyst of more or less ancient origin, or a cyst associated with an accumulation of cholesterin.

After making an analysis of the data collected it was concluded that the patient had a hemorrhagic cyst.

The author directs attention to the importance of making a differentiation between hemorrhagic cysts or cysts associated with an accumulation of cholesterin, on the one hand, and a cyst containing colored liquid material (kyste a liquide citrin) on the other hand, bearing in mind always the possibility of cancerization of a pre-existing adenoma. When a cyst contains lemon-colored or yellowish liquid material there can be no question but that it is a cystic goiter, simple or toxic (il ne peut etre question que de goitre kystique simple ou toxique). In the case of such a cyst, whether it be simple or toxic, it is the opinion that surgical operation should be done, and it is indicated that surgical operation for the relief of pathology of this character is gratifyingly successful.

But it is not the same in connection with hemorrhagic cysts or cholesterin cysts. If the average patient who has a cyst of this kind (hemorrhagic or associated with deposits of cholesterin) the patient is often—in fact, usually dilapidated, asthenic and anemic. For this reason operation is approached with caution.

In the case of the patient reported here there was a hemoglobin percentage of 52, R.B.C. 2,050,000, W.B.C. 1,875, polynuclear neutrophiles 67 per cent, lymphocytes 30 per cent.

Acting upon the suggestion of a consultant, the patient was given a few intramuscular injections of pentose nucleatide (pentnucleatide). The author does not say so, but, taking into consideration the very low white blood count, the inference is that was the reason for giving the preparation, such preparations having some supposed value in connection with diseases characterized by an unusually low white blood count. After an investigation covering a period of about two months, a bi-lateral sub-total thyroidectomy was done on May 29, 1939. An examination of the removed tissue confirmed the diagnosis of hemorrhagic cyst of the thyroid.

Convalescence was entirely satisfactory. Within a short time the patient expressed herself as feeling well, and the blood picture was soon of a normal character.

Based upon his observation and experience, the author believes that patients who have hemorrhagic cysts of the thyroid or cysts associated with an accumulation of cholesterin should be treated by surgical operation, not withstanding the poor general condition of the patient, because in old hemorrhagic cysts and cysts associated with an abnormal accumulation of cholesterin the dilapidation of the patient is rapid and progressive, and, for that reason, it would appear that proper surgical operation is more urgent, even, than in the average toxic goiter.

The final conclusions of the author are as follows:

"1. A hemorrhagic cyst, or a cyst associated with abnormal accumulation of cholesterin, rapidly and gravely alters the general condition of the patient.

"2. These cysts ought to be differentiated from cysts containing lemon-colored or yellowish liquid material (gyste a liquide citrin).

3. Consigned to his own means of defence, the carrier of the cysts is quickly overcome, and a surgical operation is feared.

4. A thyroidectomy ought to be done without delay.

5. I have no confidence in the efficacy of medical or physical therapy in this clinical form (Je ne crois pas a l'efficacite d'une therapeutique medicale ou physique dans cette forme clinique)."

LeRoy Long.

Endometriosis of the Lungs: John E. Hobbs, M.D., and A. R. Bortnick, M.D., St. Louis, Missouri; Surgery, Gynecology and Obstetrics, November, 1939, Vol. 69, page 577.

This article reports experimental works carried out on rabbits with autotransplantation of the endometrium through the ear vein of the rabbit and a study of the lungs which demonstrated that the endometrial tissue was able to grow in lung tissue.

The authors quote the work of Sampson, Halban, and others who have demonstrated the presence of uterine mucosa in veins and lymphatic vessels.

Since endometrial tissue can be thus transported through lymphatics and veins, and since their autotransplanted uterine mucosa was found to be viable in lung tissue, they conclude that, therefore, endometrial tissue must occasionally reach the lungs and grow.

It is their contention that this is a plausible explanation for vicarious menstruation since it is possible for endometrial tissue to enter the general circulation either through a patent foramen ovale or by propagation through the pulmonary circulation.

They report a woman of 42 years who had an endometrial implant in the groin and who had hemoptysis at the time of menstruation. X-ray studies of the lungs showed a circumscribed shadow in the apex of the right lung. Upon being given a sterilizing dose of X-rays to the ovaries, she has had only occasional slight hemoptysis usually associated with excitement. They felt that she probably had endometrial tissue in the lung with vicarious menstruation.

They also call attention to the cases reported by Navratil and Kramer and by Mankin in which there was endometrium in the brachioradialis muscle and thigh.

These authors also feel that this aberrant endometrial tissue has characteristics which indicate that it has increased potentiality to become malignant.

Comment: This is a most intriguing explanation for some patients with hemoptysis at menstrual time. However, unfortunately, as far as I know there has been no instance of endometrial tissue demonstrated in the lung at autopsy. This may be due to the fact that the postmortem examinations have not been done carefully enough or that the examinor was not particularly observant about this possibility.

Wendell Long.

EYE, EAR, NOSE AND THROAT

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Non-Traumatic Ventilation Treatment of the Nose and Sinuses. Sidney N. Parkinson, Oakland, California. The Journal of Laryngology and Otology, October, 1939.

This is quite an interesting discussion accompanied by illustrations and a bibliography. The method of treatment and the reason for same is outlined, discussed and defended, adequately. The results claimed are good. The procedure is logical. The article is long and has a comprehensive recapitulation which is given below.

For intranasal medication during acute inflammation of the nose and sinuses it is best to use a drug with known useful action and with known freedom from local tissue resection.

A drug for intranasal use should be prepared in a vehicle known to be physiologically compatible with nasal secretion. This will prevent the occurrence of local tissue reaction from the vehicle. The main factors requiring compatibility are tinicity and hydrogen-ion concentration. Damage to the cilia and to the epithelial cell walls result from errors in either factor. A physiological solution of sodium chloride made with tap water, sterilized by boiling, and free from preservatives and antiseptics appears to be a satisfactory vehicle.

In acute infection of the nose and sinuses treatment solutions are best applied by atomizers and by head-low posture. Thus one avoids the physical trauma to nasal and sinus epithelium inherent in the use of tampons, trocars, cannulas, and other mechanical means.

The head-low posture of choice is the lateral head-low position for the following reasons:

1. It is designed in accordance with the anatomy of the living nose. Although asymmetrical with regard to the skull, it is symmetrical with regard to the nasal structure. All the sinus ostia are reached by this posture.

2. It is practicable from infancy to old age.

3. It is comfortable; in fact, it resembles the position of sleep sufficiently to cause no fear in small children.

4. The head is at the same level as the rest of the body with the exception of part of the chest. Hence there is a minimal gravitation into it of venous blood from the trunk and extremities. This is of real importance, especially in elderly persons.

5. The posture is easily effected in the home or in the office and requires no special equipment. A cot and a pillow are all one needs. With infants and small children the posture is best obtained over one's lap.

6. An intelligent mother or nurse is easily taught the technique.

7. None of the therapeutic fluid need reach the pharynx or mouth in this posture at any stage of treatment. This is important. Drugs used in the nose are for local effect only, and their effect when swallowed or aspirated serves no useful purpose.

Sulfanilimide In The Treatment of Mooren's Ulcer. Marvin J. Blaess, M.D., Detroit, Mich. The Eye, Ear, Nose and Throat Monthly, November, 1939.

This is a report of two cases. Case One was a housewife, age 60, whose chief complaint was severe pain, redness and tearing of the left eye. There was present in the upper nasal quadrant a marginal ulcer. This was covered with a grayish exudate, margins were undermined and the edge was gray and overhanging. Various cauterizations and daily one per cent optochin ointment failed to check its progress. Crystalline Vitamin B1 was also used. The ulcer continued to enlarge and the patient was hospitalized. Intravenous typhoid vaccine was given ineffectually apparently. Sulfanilimide was then started and the patient did not tolerate it well. However, during one week of the regime the ulcer's progress was stopped. The edges of the ulcer were removed four days later. As the flap gradually withdrew, epithelization of the corneal defect took place nicely and the patient continued with an uneventful recovery with a remaining moderate translucency of the site of the defect. Fortunately the ulcer did not quite reach the center of the cornea so there is no visual impairment.

Case Two was a white male, age 24, with a marginal ulcer involving two-thirds of the circumference of the left corneal margin, it extended from the 3 o'clock to the 11 o'clock position. The deepest portion involved the entire thickness of the epithelial layer of the cornea. Normal saline instillations and one per cent optochin ointment were used. Fifty grams of sulfanilimide was given daily and tolerated well for four days. At this time the ulcer showed definite improvement. Dosage of the sulfanilimide was reduced to 30 grains daily. By the seventh day the conjunctival injection had subsided, the pain was entirely relieved, and the ulcer stained only lightly. By the tenth day the eye was entirely healed. Because of the variety of treatment instituted in each of the above cases it is difficult to draw a conclusion of definite value; however, the turning point for both cases was after sulfanilimide medication was started.

Blood Cultures in Cases of Otitic Sepsis. Joseph L. Goldman, M.D., New York. Archives of Otolaryngology, October, 1939.

The report and article is derived from 104 cases of thrombosis of the lateral sinus, including primary thrombosis of the jugular bulb, observed in a period of 12 years at the Mount Sinai Hospital. The author's summary is as follows:

Bacteremia is the most constant clinical feature in cases of thrombosis of the lateral sinus. Accordingly, recognition of the bacteremia is an important finding for the diagnosis and clinical management of otitic sepsis.

The micro-organism usually isolated from the blood stream in cases of thrombosis of the lateral sinus is Str. haemolyticus. It was recovered from 95.7 per cent of cases of proved bacteremia associated with otitic sepsis. It appears from bacteriologic investigations that thrombosis of the lateral sinus, with rare exceptions, is essentially a disease caused by Str. haemolyticus.

The demonstration of invasion of the blood stream is dependent on the methods used in taking and cultivating the blood. In the interpretation of blood cultures special attention should be directed to the consideration of the number of micro-

organisms cultured, and importance should be attached to the growth of micro-organisms in fluid mediums alone. Analysis of the preoperative blood cultures in this series showed that Str. haemolyticus was obtained from the fluid medium in 22.7 per cent of the cultures. It is my opinion that finding Str. haemolyticus in a case of suspected otitic sepsis, even in small numbers and in fluid mediums alone, establishes the diagnosis of thrombosis of lateral sinus or primary thrombosis of the jugular bulb after all other clinical possibilities have been excluded. With this concept in mind, blood cultures should contribute greatly to the diagnosis of septicemia when there is a vague otitic history with inconclusive physical evidence.

Proper interpretation of blood culture can be helpful also in the management of proved otitic sepsis and in the differential diagnosis of conditions simulating otitic sepsis. In cases of clinical sepsis associated with infections of the middle ear, sterile blood cultures also give information of great value. In this connection it is important to emphasize that in my experience infections confined to the middle ear and mastoid bone have not been associated with bacteremia.

It seems pertinent in the discussion of invasion of the blood stream that clinically significant bacteremia should be differentiated from clinically insignificant bacteremia and described as such.

PLASTIC SURGERY

Edited by
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The Treatment of the Patient With Severe Burns. Roy D. McClure, M.D., Detroit, Mich. Journal of A.M.A., November 11, 1939.

The author gives a short statisticians discussion of burns at Henry Ford Hospital, 1937. In a paragraph he summarizes the advancement and treatment of burns since Davidson did his revolutionary work in the Henry Ford Hospital 15 years ago. He states three questions for which the answers should be sought:

1. Are there any new facts concerning the systemic effects of the chemical and tissue changes which follow severe burns?

2. What is the effect on the mortality rate of present methods of treatment?

3. In the light of our present knowledge, what is the best therapeutic procedure in burns?

Three theories according to the author have arisen to account for the marked toxicity of the patient with severe burns:

1. Physical theory which deals with the concentration of the circulatory blood and a failing circulation.

2. Bacterial theory of Aldrich.

3. A specific toxin which is formed at the burned area and distributed by the circulating blood.

The author discusses the pathology of burns and deals principally with that in the liver following massive burns. Specific cases are cited, one in which practically the entire liver was necrosed. Further discussion deals with the changes of the blood chemistry which are well known, and mortality statistics. The treatment of burns used at the Henry Ford Hospital is well summarized and will bear quoting. Summary of Treatment of Burns, Henry Ford Hospital Method:

General Supportive Measures

1. Pain and restlessness are combated by adequate and repeated sedation.

2. Oxygen therapy may be indicated in certain severe cases.

3. External heat is applied: hot water bottles and blankets if area is limited; electrically heated cradle tent and superheated room if extensive.

4. Restoration of fluid balance is undertaken to obtain a 24-hour urinary output of 1,500 cc. Fluids by mouth, rectum, interstitially and intravenously. Continuous intravenous method is often indicated and may be imperative in cases of extensive burns involving the extremities. The solutions used are 5 per cent dextrose and physiologic solution of sodium chloride.

5. Blood plasma transfusions are done.

6. Laboratory investigations are made: (a) frequent hemoglobin or h e m a c r i t determinations should be made. (b) The urine should be analyzed frequently with determinations of the specific gravity and albumin content. (c) Serum protein determination should be made immediately on admission. When facilities are available the following procedures should be done: (d) Chloride estimations should be made at intervals so that depleted chlorides may be restored by intravenous administration of saline solution. (e) Blood cultures may be taken. (f) The nonprotein nitrogen should be determined. (g) The icterus index should be ascertained as a means of recognizing toxic hepatitis or liver damage.

Local Treatment

1. Remove all clothing under as sterile conditions as possible and place patient on sterile sheets in a warm room.

2. Take all precautions to avoid infection of the burned area. Treat as any other large wound. Aseptic conditions: masks, gloves, gowns, must be worn by doctors and nurses.

3. Debridement should be minimal and should be limited to opening blisters and cutting away dead skin.

4. Tannic acid in a 5 per cent fresh solution is applied with atomized or power spray. This is a simple and effective way of tanning the burned area. This solution is sprayed on at frequent intervals until the burned area is thoroughly tanned. Ointments containing tannic acid plus antiseptic are useful in small burns and for burns of the face and the perineum. The addition of antiseptics such as resorcinol or silver nitrate to the tannic acid with the idea of preventing infection has been employed with apparent success, but treating the burned area as a surgical open wound by taking steps to prevent the introduction of infecting organisms is an equally, if not more effective measure.

After Care

1. Cut away all dead skin and open collections of fluids under aseptic precautions and then again spray tannic acid on the bared areas.

2. As the heavy tanned crust forms watch carefully for local signs of infection under the crust and liberate collections of pus. Occasionally the first clue to these collections is evidence of systemic reaction.

3. Prevent contracture deformities by the early use of extension apparatus.

4. Employ skin grafting early and freely.

5. Detect and treat secondary anemia early. Blood transfusion is the best method of doing this in the late stages.

Dr. McClure believes that the original theory that a toxin is formed in the burn and is carried by the circulation throughout the body with the production of systemic effects has not yet been settled. He believes that disagreement regarding the proper local treatment should not distract our attention from the more important problem, the treatment of a very sick patient who has a threat-

ening toxemia, alterations in the blood chemistry, a wound very susceptible to infection and pathologic changes in organs remote from the skin.

Comment

This is an excellent article on the care of the burned patient. The article gives a method of local treatment but does not require that it be used in all cases feeling that this is of secondary importance to the treatment of the patient. There is an excellent discussion of pathology occurring in the liver in severe burns together with a review of the changes occurring in the blood.

Personal experience has led to the opinion that local treatment presents a rather wide choice and should be carefully individualized to the circumstances and to the patient. Major burns which will present a large amount of slough in many cases are perhaps best treated by saline packs since this slough must be removed as soon as separation occurs.

In the first two or three weeks after very extensive burns the major attention must be given to the patient as a whole and active treatment directed toward a maintenance of fluid metabolism; replacement of body salts and dilution of hemoglobin concentration together with the replacement of blood proteins either by whole fresh blood, by blood plasma transfusions, the latter being of course preferable in the presence of marked hemoglobin concentration.

Other complications must be watched fairly closely and treated accordingly. Those paramount are acute toxic nephritis, secondary pneumonia and delirium. It must be borne in mind that the burned patient may have other pathology which should not be overlooked such as diabetes, tuberculosis, lues, etc.

We have seen a patient in the past month who had a bleeding peptic ulcer with a toxic etiology who lost 60 per cent hemoglobin in a period of 48 hours. This man required massive blood daily, 500 cc., transfusions to sustain life.

Treatment of Avulsed Skin Flaps. Alfred W. Farmer, M.D., Toronto, Canada. Annals of Surgery, November, 1939.

The author reports four cases of severe avulsion of skin occurring in civil practice, three automobile accidents and one a domestic wringer injury. The treatment that he outlines is that of excision of the avulsed skin and complete cleansing and debridement of the traumatized area. Soap and water and saline are used in cleansing the defect, that is the subcutaneous fat and connective tissue are removed, cut well into the dermis, and the skin being accurately sewed back into position. Pressure bandage and immobilizing splints are placed on the dressing and changed in 10 to 14 days unless otherwise indicated. The author reports four cases treated in this manner with fairly good results. He believes that this is the first time that such a procedure has been described as such, although he cites cases in literature which were treated in this manner, probably unintentionally.

In the discussion of the paper by Dr. Sumner L. Koch of Chicago he brought up the question that many of these flaps which have a wide attachment are best left in position and treated as a pedicle although in certain types of injuries where the pedicle is distal to the circulation and very small it is perhaps better to detach the flap.

Comment: In this type of skin defect probably the agent which causes death of the flap is a congestion from the venous circulation rather than ischemia from lack of blood supply. Therefore it would seem logical that a procedure to permit drainage would be multiple stab wounds in the flap with an agent to prevent coagulation of the cerum, such as sodium citrate, would permit sufficient drainage. This together with the pedicle to keep the flap viable until it had re-established its circulation turned loose by the injury.

However, in certain injuries where portions of the skin are crushed and devitalized or where the skin is practically completely detached, procedure as described by the author would be applicable and an acceptable surgical technique.

ORTHOPAEDIC SURGERY

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Arthroplasty of Hip: A New Method, M. N. Smith-Petersen, Journal of Bone and Joint Surgery, April, 1939.

The author points out that arthroplasties in the past have been confined chiefly to reshaping of two joint surfaces that are mechanically suitable for function, and then covering them with a lining which, in the operator's idea tends to prevent reankylosis. Always the blood clot which formed between these two surfaces organized and resulted in a certain amount of fibrous tissue. The author's method, however, consists of a "two stage, mold arthroplasty." This implies the introduction of an inert mold between the joint surfaces so that repair can go on and the mold later removed, leaving a small joint surface. Several types of molds have been used—the chief one being glass viscaloid which is a form of celluloid; pyrex glass, bakelite and finally Vitallium. The hip joint is the chief joint used although it is not confined entirely to the hip. Very excellent results have been obtained with the use of the latter material; there being objections to the earlier materials used.

The author describes a very excellent new approach to the hip. This approach is similar to that for his acetabulo-plasty previously described. An anterior incision is made along the anterior third of the iliac crest and slightly down and medially along the lateral border of the sartorius muscle. Dissection is carried between the sartorius and tensor fascia later by sharp and blunt dissection. The attachment of the direct head of the rectus femoris to the anterior inferior spine is next defined. A detailed discussion follows of the exact approach to the hip, which is essential for anyone to study in detail before attempting the procedure. It is major surgery and requires a very thorough knowledge of the hip region. However, an excellent exposure is obtained and anatomical closure can be secured.

Post-operatively the patient gets along much better than previously described forms of hip arthroplasty. At the end of the second week the patient uses roller skating exercises with the skates strapped to the backs of the heels and adduction and abduction of the hip being accomplished. At the end of four weeks the patient is up in a chair and may begin exercising on a stationary bicycle. With the Vitallium mold it has not always been necessary to remove it. The author has done 29 patients with this procedure, yet hesitates to give any final end-results since they have all been done since 1938. However, he states the success of the early cases has definitely justified the procedure on following cases.

Internal Fixation of Trochanteric Fractures of the Femur, J. Albert Key, Surgery, Vol. 6, No. 1, July, 1939.

The author points out that during the past few years great emphasis has been placed in the intracapsular fractures or fractures of the femoral neck and the extreme mortality and morbidity of these

fractures. Internal fixation has been developed with the neck fractures to the extent that it is a routine procedure in all well grounded orthopedic clinics. However, the trochanteric fracture has still been treated by various and sundry methods of fixation which keep an elderly patient in bed for several weeks to months and according to records of the St. Louis City Hospital the mortality of 214 trochanteric fractures was 38 per cent while 166 intracapsular fractures in the same hospital was 25.9 per cent. Thus the trochanteric fractures are more frequent and the mortality is greater. The fact that trochanteric fractures heal more kindly than fractures of the neck has probably accounted for considerable attention paid to this type. In fractures of the neck there is much less trauma to the patient as a rule than in trochanteric fractures. There is more pain with trochanteric fractures, and it is the author's belief that this is the chief reason for death in old people. The author describes three general types of trochanteric fractures. First, in which there is little or no visible comminution or displacement. Second, in the usual type with considerable separation and comminution, but with the lateral cortex of the shaft of the femur intact to a point beyond the line with the superior surface of the neck of the femur. The third involves the lateral cortex of the femur and in reality is a subtrochanteric fracture and cannot be nailed, but can be fixed with pins or Parham bands, so that the fragments are fairly stable. Primarily the operation consists of a lateral incision and the drilling of the shaft and the neck by a 3/16 inch drill, followed by three planes with a thin osteotome. This is then fixed firmly with a Smith-Petersen nail of three-flange type. The preliminary drilling is done to prevent splitting the cortex. Casts have not been used in the usual case. It is believed this will give less mortality and morbidity than use of the older methods.

The abstractors have been interested in the nailing of trochanteric fractures for several months and have done a few, following somewhat the same technique as Dr. Key. We feel this is a step forward in the treatment of such fractures.

Howard B. Shorbe, M.D.

CARDIOLOGY

Edited by F. Redding Hood, M.D.
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Functional Cardiac Disorders

The term is here taken to include, cardiac neurosis, neuro circulatory asthenia, irritable hearts and functional murmurs. A patient may have any one or a combination of these.

Cardiac Neurosis

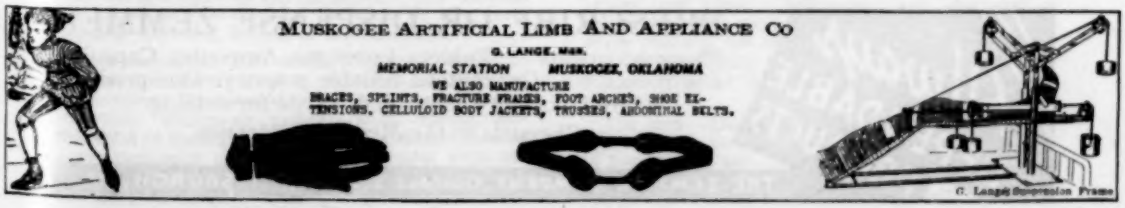
Cardiac neurosis are functional disorders of the nervous system consisting essentially of fear and apprehension about the heart, a fear of death with a secondary fear of partial or complete incapacitation. It may manifest itself by disturbances in rate, rhythm or sensation, or by a combination of these. The most common symptoms are dyspnea, palpation, tachycardia, weakness, faintness and dizziness. These are symptoms of organic heart disease but are found in a more exaggerated form. Patients appear flushed and perspire freely but their hands and feet are usually clammy. The heart rate is accelerated but has a normal response to exercise. Where precordial distress is found precordial hyperesthesia is the rule. This distress is usually independent of effort. These patients are definitely below normal in both physical and mental stamina. A history of extreme malaise, helplessness, immobility, weighted sensations, coldness, or extreme prostration may be given. Loss of consciousness is rare but when it occurs it is longer than a simple faint and is probably due to the accelerated pulse rate, the shallow and rapid respiratory effort and vasovagal disturbances.

The physical examination will show evidence of the symptoms found but no evidence of any heart disease or they may accompany heart disease. On this basis, cardiac neurosis has been classified as (1) occurring without heart disease, (2) with heart disease which is not producing symptoms and (3) with severe heart disease producing symptoms of failure.

The signs at the examination of these patients will be a rapid heart rate, snapping first sound at the apex, increased pulmonary second sound, a thrill is rarely found but a systolic murmur at the apex is common. The blood pressure may be elevated at the first examination. As a rule there is no arrhythmia but extra systoles may be present. There is no cardiac enlargement and no signs of failure unless it accompanies severe heart disease. There has been reported cardiac enlargement as a result of cardiac neurosis, however, the effect of exercise and excitement on the heart is to increase the rate and force of the heart beat and if extreme systolic murmur may be present and after such exercise and excitement the heart is actually smaller than before. It is now accepted that there will be no enlargement in uncomplicated cardiac neurosis.

The potential framework for a neurosis of some kind is present in all of us but needs the right set of circumstances and events to set it off. The precipitating or exciting factor may originate in childhood, may come from the death from heart disease of a member of the family or some close friend, may come from death notices in the newspapers. I feel that this is certainly true of cardiac neurosis developing in patients who know that they have heart disease. It may come from palpation following a full meal, excessive use of tobacco, alcoholic imbibition, or it may come from a careless word, action or suggestion on the part of a physician during an examination for other conditions.

In considering treatment of the patient it should start with the history taking since a careless history or a superficial examination is worse than none at all in dealing with these patients. It is above all necessary to establish the patient's confidence and to convince him that he is getting a thorough examination. Much time is needed and well spent in going into details as to tests and results, the diagnosis should be made and then stated as confidentially as possible. There should be no doubtful additions added. To tell a patient that you can find nothing wrong and then to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limit his activity or to follow such a statement by administering medication cannot help but arouse in him a suspicion of possibly a more serious heart disease than he may have originally imagined and that you are holding out on him. Should he need a gradation of exercise or medication due to his general physical or nervous condition such procedures should be carried out with ample explanations and it has been suggested that a short time elapse between the examination and the beginning of such medication. A convincing re-assurance is the keynote of success. An exploration with the patient and sometimes a near relative into his fears and doubts will aid in a readjustment. In man, his fears concern himself, his family or his business. Any abnormality such as foci of infection affecting his general systemic well being should be corrected, a budgeting of time as to work, play and rest as needed and general measures as to diet, rest and exercise is important.

Neura Circulatory Asthenia

Neuro circulatory asthenia is to be distinguished from cardiac neurosis in which occurs anxiety, hypochondriasis or hysteria, from irritable hearts due to premature beats or paroxysmal tachycardia, and from ordinary neuroasthenia manifested by lack of energy with mental and physical exhaustion and irritability.

It follows infection, fatigue, salt lack, and hyperventilation. Classification has been made on the basis of etiology, the class depending upon the severity of the predisposing factors which bring about the syndrome. It has also been classified on the basis of the degree of physical activity or excitement which will bring on the symptoms. There is no distinct line between the normal and the abnormal. The symptoms which are brought on in a normal subject by great activity or excitement while in severe cases of neuro circulatory asthenia they may be precipitated by little activity or excitement. It has been said that the syndrome exists, when the symptoms appear in the course of usual efforts of daily life and such activity would not produce them in the patient and when such activity would not produce symptoms in an average subject.

The cardinal symptoms are palpation, respiratory discomfort, precordial aches or pains and exhaustion.

Palpation is the most common symptom complained of. It does not necessarily mean a rapid heart or the presence of irregularities. The patient may feel palpation at a time when the examiner will be finding a normal rate with a regular rhythm. It is more a lowered threshold to heart consciousness.

Respiratory discomfort is not a true dyspnea as found in cardiac failure. There may be a slow respiratory rate with increased inspiratory effort and with periodic sighing type of respiration with actual hyperventilation, yet the patient may insist he has difficulty in getting sufficient air to fill his lungs; one might class this type of dyspnea as a lowered threshold to respiratory consciousness.

Precordial discomfort may quite closely follow the characteristics of that occurring in angina pectoris as to location, radiation and in response to effort. They differ as to length of time, where in angina pectoris, the time is relatively short, in neuro circulatory asthenia they may last for hours. There is some difference of opinion in literature as to radiation but in reviewing a series of cases, radiation occurred in about 50 per cent, the areas involved corresponding to angina pectoris. The more severe the distress the more likely the radiation. The presence of hyperasthesia of the area and a history of the discomfort occurring without emotional, physical or thermal changes will aid in the diagnosis.

A feeling of physical weakness, exhaustion, dizziness complete the cardinal signs.

The importance of a careful and complete history and examination as stressed under the discussion of cardiac neurosis and the establishment of confidence in the patient for the doctor must not be underestimated. It is necessary to explain his condition, to expell his fears, eliminating complicating cardiac neurosis and then to let him understand fully what his plan of life should be, the limitations that must be met in order to so live that symptoms will not be produced. He must be moderate in work and play, avoiding late hours, excitement, over-indulgence in alcohol and tobacco. In general, to avoid all possible stress and strain, both mental and physical. He should be warned that he should attempt to so live that he does those things that will better his general health and not do those things that will lower his general resistance, and that the period of recovery from other illness will require longer periods than in other individuals. As reassurance is the keynote to success in neuro circulatory asthenia.

Irritable Hearts

An irritable heart may be due to auricular or ventricular premature beats, tachycardias, auricular flutter or fibrilations. They may occur not necessarily due to structural changes in the heart but as a result of disturbance of function. One should be especially careful to ascertain the absence of enlargement of the heart, organic valvular diseases or other forms of cardiac pathology before classifying them as entirely functional. They may occur as part of the clinical picture of cardiac neurosis or neuro circulatory asthenia, or from extra-cardiac conditions such as foci of infections about the tonsils, sinuses, etc., gastro intestinal pathology, may follow infections as pneumonia or influenza, or may be a warning of more serious myocardial condition.

Treatment depends upon the particular type of arrhythmia present, and due to time, cannot be here discussed.

Functional Murmurs

The entire question of functional murmurs has not been decided to our complete satisfaction. A simple classification of the non-organic murmurs would be to divide them into those resulting from disturbances of the heart muscle and those resulting from physical changes.

The functional types resulting from changes in function of the cardiac muscle have been contributed to the asthenia of papillary muscle resulting in a failure of closure of the atrio-ventricular valves with an insufficiency of their action pro-

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ducing systolic murmurs. The other advanced theory of their production is dilatation of the ring about the atrio-ventricular valves which prevents their closure. In either case the disturbance of function of the valve is the same as that from organic valvular disease. One being a temporary condition, the other being more or less permanent.

The physical murmurs may result from a change in the composition of the blood effecting its physical properties as in severe anemias; it may result from a change in velocity, this would occur when the heart is slow, with greater diastolic filling and the murmur would occur when the velocity is increased or during systole. Anatomical changes may bring about abnormal pressure or tortuosity interfering with blood flow and may produce systolic murmurs, such an example would be the systolic murmur over the pulmonary artery in flat chested subjects.

These non-organic murmurs are most frequently heard at the base, but may be heard at any valve area or may be heard all over the precordial area. Although certain types would be expected to be heard only with a slow heart or at least best with a slow heart, we find some that are heard only after exercise, and the area in which they are audible is increased by exercise.

I feel that the important thing about these non-organic murmurs is the possible production of cardiac neurosis by the improper valuation of the murmur by the physician.

Conclusion

In conclusion, I wish to point out the extreme morbidity resulting from functional cardiac disorders; that although many articles have been written on the subject, the standards of today are still expressed in Thomas Lewis treatise on the Soldiers Heart, published in 1919; that establishment of the confidence of the patient in the physician and his reassurance and re-education is the keynote of therapy; that drugs have purposely been left out in this discussion, they are of so little importance in the treatment of cardiac neurosis and neuro circulatory asthenia, and there has been a tendency by some to over-estimate their value; drugs in various cardiac arrhythmias depend upon the type of arrhythmia; and that extreme care should be used not to precipitate cardiac neurosis by miss-evaluation of non-organic murmurs.

INTERNAL MEDICINE

Edited by Hugh Jeter, M.D., 1200 North Walker, Oklahoma City

Chronic Leukemia, The Early Phase of Chronic Leukemia, The Results of Treatment and the Effects of Complicating Infections; A Study of Eighty-six Adults. Maxwell M. Wintrobe, M.D., and L. Lee Hasenbush, M.D., Baltimore. (Archives of Internal Medicine, Vol. 64, No. 4, October, 1939.)

This is a very comprehensive report on the study of 86 adult cases of chronic leukemia including both the myelogenous and lymphatic types. Results are given on therapeutics, duration of life, incidence of infection, affects of infection, etc.

It is concluded that there is little evidence to support the theory that a remission of leukemic signs occurs in association with an intercurrent infection. Eighty-six patients with chronic leukemia, 39 of myelogenous and 47 of leukemia showed a predominance (61.5 per cent in males with the myelogenous form and 83 per cent in males with the lymphogenous).

"In 72 per cent of the cases of myelogenous leukemia the age onset was 30 to 59 years, while in 61.7 per cent of the cases of lymphogenous leukemia, symptoms began between 50 and 69 years.

"The early phase of chronic leukemia, as determined by the histories of five patients with myelogenous leukemia and 16 with lymphogenous leukemia, is described.

"These observations indicate that unexplained leukocytosis may be the first and even the only sign of chronic myelogenous leukemia. In these cases mature cells of the myeloid series rather than myelocytes made up the majority of the leukocytes.

"In chronic lymphogenous leukemia, unexplained leukocytosis was the initial sign in only about a third of the cases. Slight glandular enlargement was a frequent early sign. In one case splenomegaly was so pronounced and other signs were so minimal that an erroneous diagnosis of Banti's syndrome had been made.

"Distinct lymphocytosis was found in a number of cases of early lymphogenous leukemia even when the leukocyte count was relatively low.

"Slight anemia was found more often in the early stages of lymphogenous leukemia than in those of myelogenous leukemia.

"It is estimated that the time elapsing from the onset of chronic myelogenous leukemia until symptoms of the disease commonly cause the patient to seek medical attention is about two to five years, whereas this period in cases of lymphogenous leukemia may be only about 1.5 to 2.5 years.

"Treatment with solution of potassium arsenite U.S.P. was found to be of less value that irradiation in myelogenous leukemia. The response to irradiation was slightly better in myelogenous leukemia.

"Statistics concerning the duration of life in cases of chronic leukemia are recorded. It is pointed out that extreme variation occurs in the natural course of the disease in different cases.

"Infections were more common in cases of lymphogenous leukemia than in those of myelogenous leukemia.

"Contrary to the opinion frequently expressed, infections in the great majority of the cases did not produce a remission in the physical signs or in the blood picture. In only one instance did a slight change of this nature occur, and in four cases there was an actual increase in the leukocyte count in association with infection."

The One-Hour Two-Dose Dextrose Tolerance Test (Exton-Rose Procedure); Diagnostic Significance. Morgan W. Matthews, M.D., Fellow in Medicine, the Mayo Foundation; Thomas B. Magath, M.D., and Joseph Berkson, M.D. With the Assistance of Robert P. Gage. Rochester, Minn. (J.A.M.A., Vol. 113, No. 17, October 21, 1939.)

In this article the authors have given the results of part of a survey of the dextrose tolerance test used in the Mayo Clinic over about a three-year period and an analysis of the results obtained with the one-hour two-dose test introduced in 1931 by Exton and Rose. Criteria for the interpretation of the test are presented. Several interesting charts are given. Advancing age produced a progressive elevation of the blood sugar level at every phase of the blood sugar curve.

A fasting blood sugar exceeding 120 mg. per 100 cc. of blood is considered to be diagnostic of diabetes.

The most valuable criterion for the diagnosis of diabetes was considered to be the one hour value of the blood sugar. If above 158 mg. per 100 cc. of blood (the so-called critical level) patients are considered to be diabetic, and if below that level non-

diabetic. A total of 247 patients were studied and this criterion of laboratory diagnosis of diabetes gave less doubtful results than in any other destrose test where oral administration was used.

Comment: These results are very interesting inasmuch as the test used is practical, more economical and more convenient than many of the older glucose tolerance tests, the fasting one-half hour and the one-hour blood sugars being the only requirements.

UROLOGY

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Affections and Lesions of the Prostatic Urethra. Edgar G. Ballenger, Journal of Urology, October, 1939.

No more neglected anatomical region exists than the prostatic urethra, so far as remediable disease is concerned.

Dr. Ballenger states that for years in his own work, many disorders referable to this region were not recognized because so often he was looking for gross physical factors, such as pus or blood, rather than more intangible evidence of disease.

With the advent of newer types of cystoscopes whereby he can study the posterior urethra more thoroughly, he has been able to recognize etiologic factors responsible for the symptoms. The specific affections of the posterior urethra as viewed by the McCarthy panendoscope are: papillomata, varicose veins, cysts, bullous edema, false passages, diverticula, utriculitis, median bars, valves, fibrous contractions and distortions produced by hypertrophy of the prostate.

A mistake commonly made is to give prolonged courses of prostatic massage merely because pus is present in the secretion. In such cases which do not respond within a reasonable length of time, search should be made to find the cause for the persistence of pus.

The agencies used in the treatment of lesions in the posterior urethra are: dilatation, phenol, nitrate of silver, the cautery current and the fulgurating current. For those familiar with the technic of cystoscopic procedure the correction of the majority of lesions in the posterior urethra is easy; the trouble lies more in the failure to recognize them.

Comment: It is true there are many conditions in the posterior urethra amenable to proper treatment and often neglected to the chagrin of the physician in charge. However, one should use judgement and not be over enthusiastic to use such drastic treatments as much harm is done to those patients who tend to be on the neurotic side so far as their sexual organs are concerned. Before submitting an individual to such strenous procedures it is well to determine definitely by careful examination whether true pathology is actually present.

The Present Day Treatment of Hydrocele. J. Ullman Reaves, M.D. Southern Medical Journal, September, 1939.

The author discusses the modern treatment of hydrocele and finds in his own experience that the injection method is the most convenient and satisfactory. Contraindications to the procedure are: (1) The presence of certain types of hernia; (2) the presence of co-existing disease necessitating surgery; (3) abdomino scrotal hydrocele; (4) the presence of blood or pus in the sac.

His technic for the injection is performed as follows: After careful aspiration of the hydrocele fluid by tunneling under the skin of the scrotum into the sac with an 18 gauge needle, 2 to 4 cc. of quinine urethrane solution is injected into the empty sac and massaged gently to spread it evenly about. A well fitting scrotal support is applied and the patient goes about his duties to return in one week for another injection if it is found necessary. Usually two injections suffice for cure, but often as many as four are given.

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